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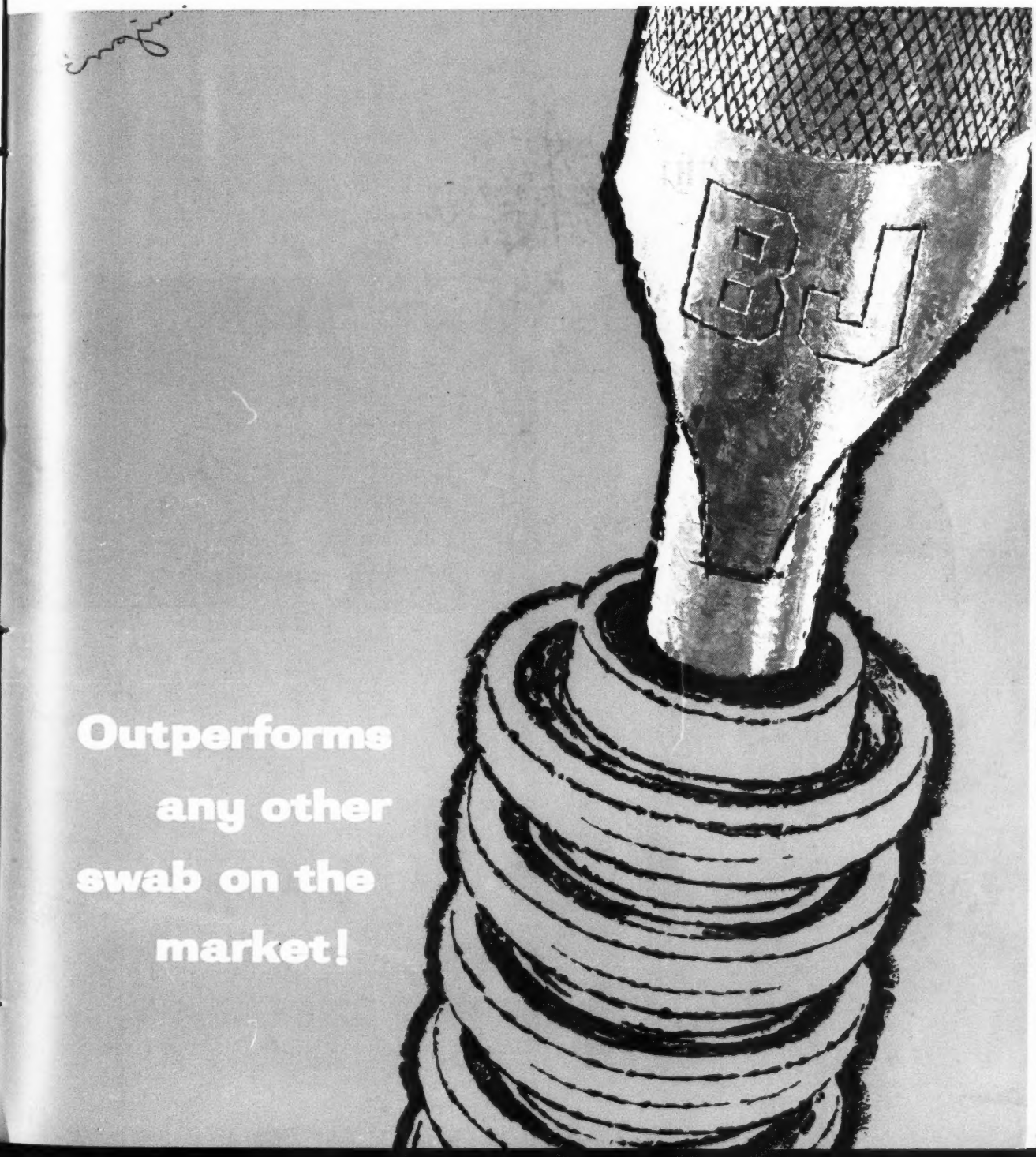

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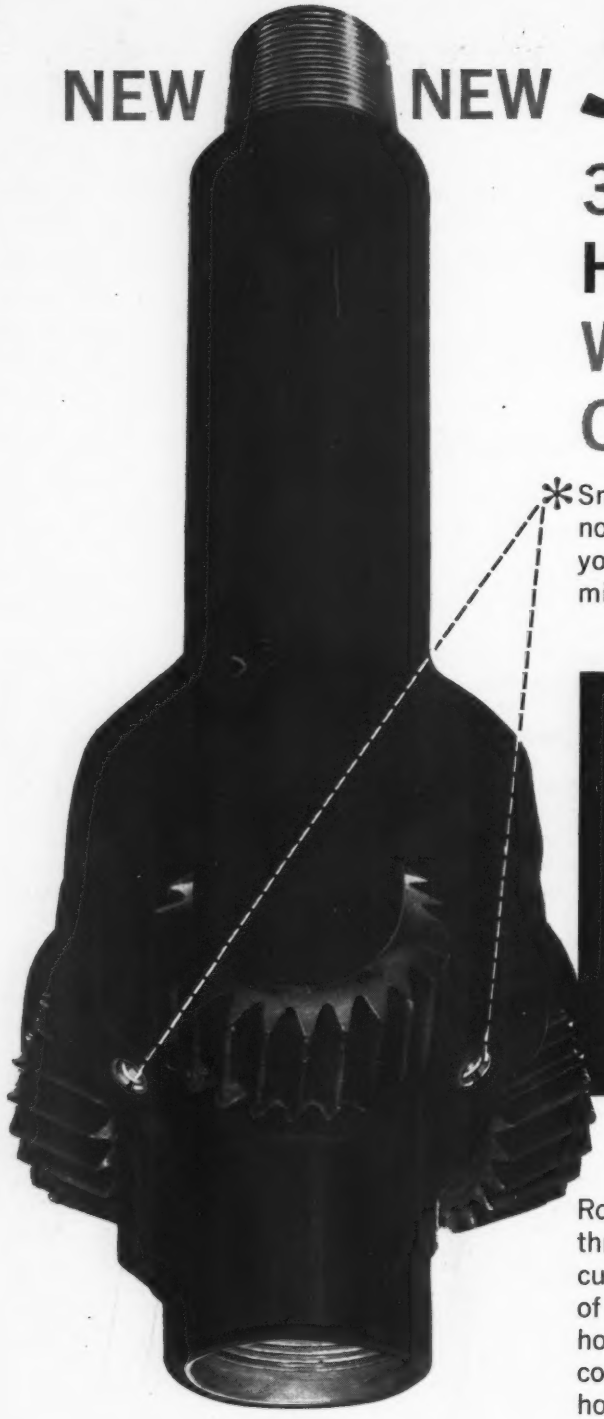

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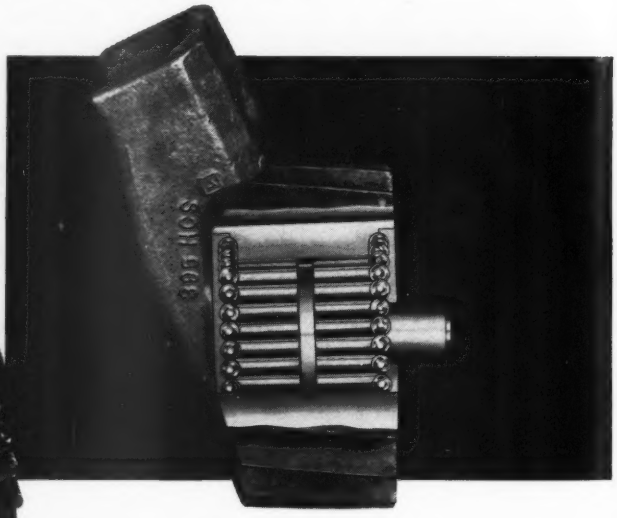

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Fuel Oil vs. Natural Gas

It's a long time since any announcement affecting the California Oil Industry has triggered such widely divergent reactions as did the recent Southern California Edison Co. proposal to construct a $225,000,000 pipeline to bring gas from Texas and Northern Mexico for use as fuel in their steam electric generating plants.

Almost simultaneously the Federal Power Commission established maximum price schedules for natural gas in 23 gas producing areas using the "area pricing" system. This action was taken more than six years after the Supreme Court directed the Commission to regulate prices paid to independent producers of natural gas.

These events really caused the industry to buzz.

Posed were such questions as these:

How serious a blow to the fuel oil market would result from completion of the proposed line?

Will our two-fuel economy (fuel oil and natural gas) eventually become a one-fuel economy as fuel oil is more and more replaced by natural gas?

If lack of a market for fuel oil forces refiners to change their operations to use heavy stocks for other purposes, what would happen if natural gas supplies should become insufficient?

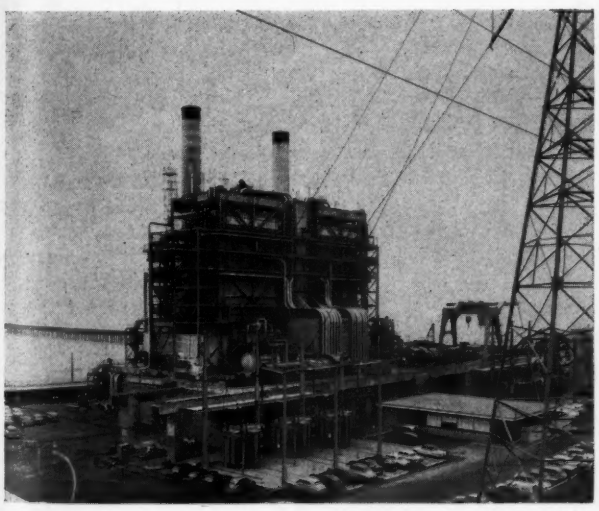
Are the maximum prices established by the Federal Power Commission sufficient to provide the incentive for gas producers to find and develop the immense quantities of natural gas required in the future?

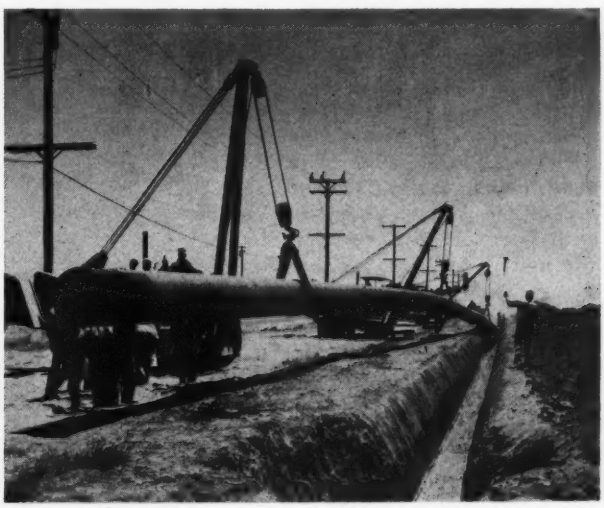
California Oil World does not presume to know the answers to these questions, but perhaps a review of recent events might lead to some possible conclusions.

On Sept. 28th Robert P. O'Brien, vice president of Southern California Edison Co., told the California Public Utilities Commission that huge new supplies of natural gas to meet future needs in the Los Angeles Basin will be opened up if his company is successful in carrying out its plan with Tennessee Gas Transmission Co. for construction of a $225,000,000 pipeline to bring gas from Texas and Northern Mexico.

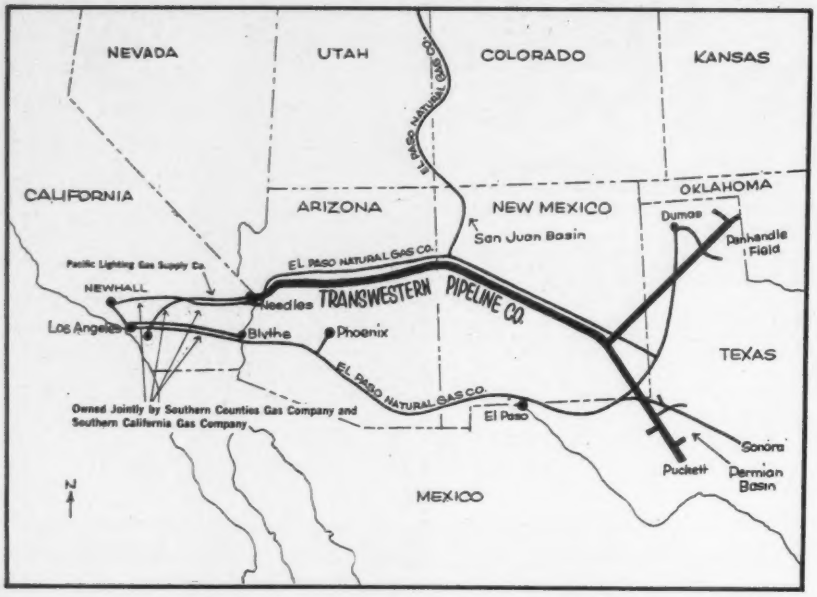
He said that the gas in question would probably not have been available to this area if Edison had not acted.

"The primary function of the pipe-





(At left) El Segundo steam plant of Southern California Edison Company. (Right) Laying gas pipeline between Los Angeles and Needles where Mid-Continent gas is received for Southern California customers.



Pipeline system which serves Southern California with gas from Mid-Continent area.

line, of course, would be to transport gas to our steam electric generating plants as an energy source for generating electricity," O'Brien stated. "Without such an independent source of supply, the trend of increasing demand indicated that Edison, classed as an 'interruptible' customer, could find its gas supply diminishing in proportion to the increase in the requirements of the non-interruptible customers."

The Edison vice president added that their obligation to their electric customers, none of whom are served on an interruptible basis, required that the company assure itself of a dependable fuel supply on a long-range basis.

O'Brien said that even if the pipeline were not authorized, other sources of fuel eventually might be used because fuel oil could be burned with the same degree of air pollution control that results from the use of gas, either through design of plants with special control equipment or through additional refining processes.

In mid-October Edison announced a contract with Humble for additional gas for this line.

The company is at present operating steam plants in Southern California at El Segundo, Redondo, Huntington Beach, Alamitos, Etiwanda, Mandalay and Long Beach. These plants cost a total of $488,000,000 including additions now under way.

These plants are operating on part gas, part fuel oil. It is roughly estimated that annual fuel oil use is in the neighborhood of 5,000,000 bbl. per year. If operated 100% on fuel oil, of course, the total would be considerably higher.

The gas companies oppose the Edison Co. proposal. Robert A. Hornby, president of Pacific Lighting Corp., stated that their companies had looked at an almost identical project about three years ago and turned to larger and more reliable sources within the United States and Canada. He said that these sources were the ones which he believed would best serve the future demand growth of Southern California.

F. M. Banks, president of Southern California Gas Co., said that the effect of such a project would be to destroy the balance in the operations of the certified gas companies by removing a portion of the load-balancing industrial market.

He stated that the destruction of this balance would inevitably increase operating costs which would have to be inflicted in higher rates to all gas consumers.

He added that the recently completed Transwestern Pipeline project and the proposed Rock Springs line will adequately meet the needs of all Southern California consumers on an equitable basis for many years to come.

The first pipeline bringing natural gas from the midcontinent to Southern California was completed in 1947 with initial deliveries of 175,000,000 cu. ft. of gas a day. This first line came into California from Texas through Blythe.

In 1957 a second line was laid from West Texas, entering California at Topock, near Needles. These two lines, built by El Paso Natural Gas Co., connected at Blythe and Topock respectively with lines constructed by the Southern California and Southern Counties Gas Companies from those points to the Los Angeles area.

A third line constructed by Transwestern Pipeline Co. was completed in August, 1960, connecting with the gas companies' lines near Needles.

The capacities of the earlier lines have been many times increased by looping, paralleling and increasing pressures.

In mid-October, 1960, the Southern California and Southern Counties Gas Companies were receiving about 1,150,000,000 cu. ft. of gas a day from the El Paso lines and 275,000,000 cu. ft. a day from Transwestern, or a total of about 1,425,000,000 cu. ft. in all, being distributed in the Southern California area.

In addition Pacific Gas and Electric Co. was receiving about 1,000,000,000 cu. ft. a day from the El Paso Company for their customers in Northern California.

The Southern California companies have had a proposal pending since 1958 for still another line to be built from the Rock Springs, Wyoming area direct to Los Angeles by way of Las Vegas, Nevada. Action by the constituted authorities is expected shortly.

In late September Robert W. Miller, chairman of the board of Pacific Lighting Corp., announced the formation of a new subsidiary to develop natural gas reserves for use by its subsidiaries in Southern California.

The new company, Pacific Natural Gas Exploration Co., will explore jointly with a subsidiary of Southern Union Gas Co. of Dallas, Texas.

The new reserves will be sought principally in the Mid-Continent and Rocky Mountain areas.

This is a departure from previous

DU PONT *Petroleum Chemicals* NEWS

Number 105 in a series of bulletins for the Petroleum Industry

NOVEMBER • DECEMBER 1960

NEW CINEMASCOPE MOVIE

gives America the BIG picture on travel

There you are — in your favorite theater . . . or your neighborhood "drive-in" — and suddenly you're driving across the Painted Desert, in the vibrant glow of early morning. Colors flash by. Music swells around you. Your spirit of adventure runs high.

The scene changes, and you're passing through a forest of giant sequoia trees. Then cruising down the beach at Daytona. And seconds later you're pulling into an historic 100-year-old village in New England.

The music rises, and a title sweeps across the wide Cinemascope screen: "Down the Road."

55 Million Viewers

For the next 9½ minutes, you will tour America. You and millions of other Americans — some 55 million of them.

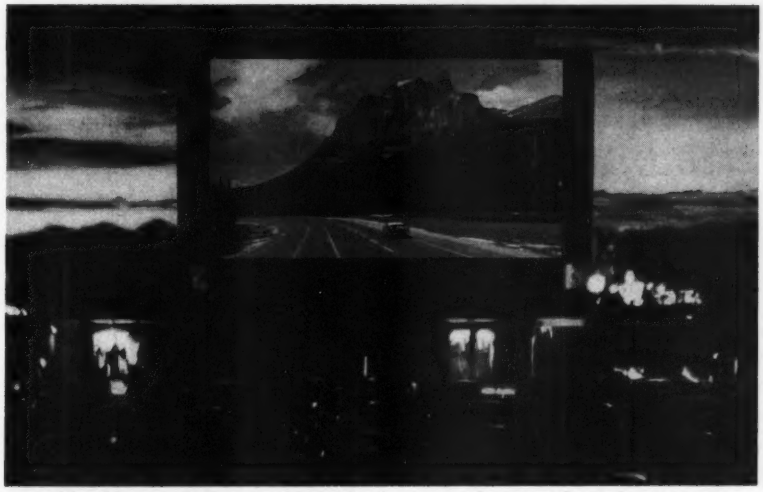
You'll swing across the continent from Atlantic to Pacific, Alaska to Mexico. You'll look, watch, drive, fish, swim, photograph, poke and probe your way across this great and various land.

"Down the Road" is a color Cinemascope movie. Sponsored by DuPont, it will be distributed on an international basis by 20th Century-Fox, starting with theaters all across America in December. This distribution will provide the oil industry with a *broad* "expand the demand" promotion. As such, it affords *your* company a natural backdrop to your own travel development activities.

Encourages Travel

In production for a full year and shot entirely on location — "Down the Road" will encourage a greater appreciation of the heritage and beauties of America, and stimulate public interest in seeing them firsthand through the convenience and comfort of the family car.

The movie is a fast-moving panorama that sweeps all the way from snow-capped peaks along the Alaskan Highway to sun-capped skyscrapers in Manhattan, from popular vacation



spots like the Grand Canyon to out-of-the-way lakeside camp sites, from the excitement of a Mardi Gras to the thrill of a county fair.

"America is a land as close to home as the point of view, and as far away as a thousand horizons." This narrative in the film points out that today's highways make *all* America our playland — to see, to admire, to cherish. But there's more than just scenery in this film. Woven into it are strong messages on safe driving, and for keeping the trip completely enjoyable with the help of America's network of service stations.

From start to finish, "Down the Road" is an entertainment motion picture, created to capture the imagination of theater audiences. Its single purpose is to appeal to the sense of adventure and pride we all share in America — and the ease with which our cars can bring it to life. It is expected to be one of the motion picture highlights of the coming year.

"Down the Road" will appeal to *all* motorists. Watch for it in *your* marketing area, starting in December.

Why Du Pont Sponsored "ROAD"

W. A. TAFT, Director of Sales of the DuPont Petroleum Chemicals Division, explains the purpose behind DuPont's sponsorship of the film "Down the Road."

"As partners in the oil industry, DuPont has always sought unique, fresh approaches to the building and expansion of markets for petroleum products.

CONTINUED OTHER SIDE

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OVER

DU PONT *Petroleum Chemicals* NEWS

CONTINUED

Why Du Pont Sponsored "ROAD"

W. A. TAFT, Director of Sales, Du Pont Petroleum Chemicals Division

"With the vast improvement in our highway system and in tourist accommodations, the time has arrived when motorists can readily and easily come to appreciate the many scenic values America has to offer. There is much to see. Adventure awaits us in all directions. All the average family needs is a little push, a little encouragement, to get them out of their own neighborhood and on the roads of America. This film is intended as a sampling of what awaits them beyond their own surroundings – to whet their appetites and give them that push.

"Naturally, a promotion of this type offers several advantages to the oil industry at large. When people take longer trips, they need more gasoline, oil, lubricants and allied products. They also get the travel habit, once the ice is broken. And finally, we're convinced that people who make planned automobile 'tours' are more inclined to take impromptu trips on week-ends and holidays. It all adds up to better business."

Du Pont TETRAMIX* combines the best of TEL and TML

Tests at our petroleum laboratory have shown that, in many cases, desired road octane levels can be achieved more economically with Du Pont's new lead antiknock, TETRAMIX, than with other lead compounds.

This new additive contains a combination of all possible methyl-ethyl lead compounds, including small amounts of TEL and TML. The result is a blending of the benefits of tetraethyl and tetramethyl lead into a single additive that offers you refining flexibility as well as lower lead costs for a given road octane level.

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Get in touch with your Du Pont Petroleum Chemicals representative. Because we offer all three compounds – TEL, TML and TETRAMIX – he can offer impartial advice in selecting the one additive best suited to your gasoline stocks.

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PHILADELPHIA DISTRICT MANAGER

CARL W. FERRIS became manager of the Du Pont Petroleum Chemicals Division's Philadelphia District in July of 1959.

Mr. Ferris has exceptional experience and qualifications for helping refineries in his district, in the use of TEL, TML, Du Pont TETRAMIX antiknock compound and other additives.

He joined the Du Pont Company in 1947, and his first assignment was at the Du Pont Petroleum Laboratory, where he worked on fuel blending studies in the single cylinder engine laboratory. He then did road test work with the Du Pont fleet of fuel test cars. He was transferred to the Division's central region in 1951, where he served, successively, as regional automotive service representative, sales promotion coordinator, an account manager, and manager of the Chicago District.

Prior to his present position, he was on special technical and planning assignments in Wilmington.

A graduate of Cornell University, Mr. Ferris has a Bachelor of Mechanical Engineering degree. During World War II, he served nearly three years in the U. S. Navy and held a commission as Lieutenant, jg. He is a member of the Society of Automotive Engineers.

His main interests outside the office are gardening and woodworking. Carl is married and the father of two young girls.

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OVER

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A-17478

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policy under which gas was contracted for delivery at the California border by out-of-state suppliers.

Many California oil people feel that completion of the proposed Southern California Edison Co. pipeline will tend to reduce the market for residual fuels, already weak, and bring new problems to the local industry.

The Oil Producers Agency is on record as being opposed to accelerated importation of natural gas in large amounts obtained primarily for industrial users. It believes that this tends to drive out residual fuel and dry up the market for a product which will surely be needed in the future. The Agency does not oppose importation of gas as needed to meet the requirements of firm customers.

On the matter of future supplies of gas there are sharply conflicting views.

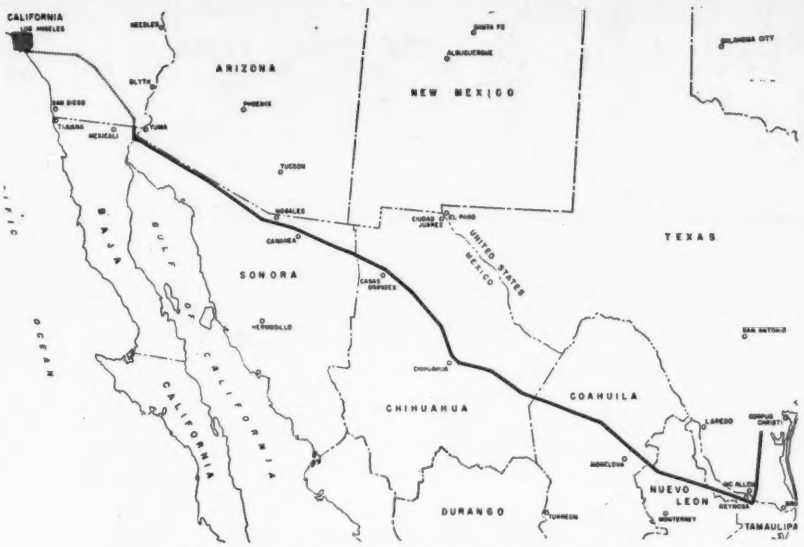
David T. Searls, vice president of Gulf Oil Corp., told members of the Independent Natural Gas Association of America in early October that present drilling rates must be increased by 50% if we are to obtain the supply of gas to meet the increased demand of the 60's, but he said that the producers cannot be expected to risk their money drilling such additional wells at the present field prices for natural gas.

He placed the number of new wells needed during the decade at the astounding figure of 625,000, and the cost to find, develop and produce the necessary 205 trillion cu. ft. from domestic sources at 92 billion dollars.

Searls cited testimony in the Phillips Petroleum Co. case which showed that the "reserve production ratio" (the life in years of a natural gas supply) of 22 years existing in 1956 actually represented only a 14-year supply at the 1956 production rate. From this he surmised that a reserve-production ratio of 15 years would probably mean full deliverability for only 8 to 10 years.

Searls contended that the only solution to the situation was an increase in the price of gas to the producer until it approaches the price of competing fuels on a BTU basis.

Officials of the gas companies, on the other hand, are confident that there are ample gas reserves for all needs. They point out that in 1925,



Route of proposed Southern California Edison Company gas pipeline.

with gas reserves estimated at 23 trillion cu. ft. this was considered a 20 to 25-year supply.

Thirty-four years later proven United States reserves had increased to 262 trillion cu. ft., which at our present and estimated future rate of consumption is still a proven stockpile good for at least another 20 years.

The gas company people point out that Geological Survey estimates of ultimate gas reserves are in the neighborhood of 1700 trillion cu. ft. This would be enough gas to last over a century. Cutting this in half would still mean that we can depend on adequate supplies of natural gas for at least the next 50 years.

The Federal Power Commission action in establishing maximum price schedules in 23 gas producing areas using the "area pricing" systems has had a mixed reception.

Some local oil officials look on this ruling as an improvement over the past chaotic conditions, but still feel that putting the natural gas producer in the status of a public utility is ridiculous. Therefore, the nearly unanimous opinion is that strong efforts must be continued to get legislation through Congress which would relieve the producer from this unfair regulation.

In the main it is felt that the prices established are too low in considering the intrinsic value of natural gas compared with other fuels and considering the need to provide an incentive for finding the needed new supplies.

Contrary to this view, the gas companies hailed the Federal Power Commission action as a victory for their gas customers. They believe that the decision will stabilize gas prices without destroying the incentive independent producers need to explore for vitally needed additional gas supplies.

Returning to the questions mentioned earlier, it would appear that the weight of opinion indicates:

There are probably sufficient natural gas supplies for the foreseeable future.

Whether present prices provide the incentive to search for new supplies is questionable.

Legislation must be enacted to free the natural gas producer from his present plight.

New Valve Spacer Bulletin By Continental-Emsco

A new two-page bulletin describes Continental-Emsco Company's Green Triangle Pump Valve Spacer. The unit is said to simplify bumping bottom or spacing subsurface-pump valves.

Replacing standard carrier bars on unit pumpers, the valve spacers are available in two models, each with a 12″ or 18″ vertical adjustment screw.

The bulletin also contains application data. Copies may be obtained by writing Advertising Department, Continental-Emsco Company, P. O. Box 359, Dallas 21, Texas.

Petroleum LORE and LINGO

By RICHARD SNEDDON

Stimulation

The course of industry is shaped by the periodic occurrence of epochal events that are somewhat like the whipstocks in a directional drilling venture. Each one sends us off into new channels of enterprise and, indeed, new channels of thought, that tend to change our whole way of life. The birth of the petroleum industry, the invention of the automobile, man's conquest of the air, radio, television, the fragmentation of the atom, and most recently the assault on space with its coincidental development of supersonic travel, pilotless planes and missiles, and advanced automation of great variety, are all specific examples of these trend-making discoveries.

The Times and the Changes

Not long ago we were worried about the necessity of developing adequate equipment to give mobility to huge armies on land, sea, and in the air. A new and terrible kind of warfare had forced us into a great surge of mechanistic invention that eventually carried us to a mass production of land vehicles, watercraft, planes, amphibious units, arms and munitions, such as the world had never known. Now again competition for supremacy in all the belligerent arts grows more terrifying by the minute. It is driving us to further research effort which has so improved the total understanding of modern attack and defense mechanisms that nothing seems to remain static for more than 24 hours. We spend hundreds of millions of dollars on the design and construction of experimental planes and atomic submarines and before either one is completed a better model is already in prospect. When a customer buys today he knows that he will be lucky to get delivery before his purchase is out of date. Obsolescence no longer creeps, it jumps, and the way war strategy is evolving, it may well be that the next world fracas will be fought by a couple of top scientists, each with a comparatively small corps of button pushers.

Cold War Effect

The current ebullition of insanity which is directly attributable to the cold war affects all industrial segments of which the total entity is composed, and none perhaps more than the petroleum industry. The world is at the moment a gigantic powder keg, swarming with bewildered humans who are treading softly in an effort to keep down tempers and temperatures in case some idiot might fire the detonating cap. Meantime, they are striving to determine what, if anything, should be done if preventive measures fail and the big explosion actually takes place.

Pushed to Prediction

It is situations of this sort that drive people to predictions which can be almost as horrible as the situation itself. For example, looking at the general picture, it seems impossible that we can go on much longer building cities, and plants that are almost as big as cities, on the surface of the earth where they are vulnerable to the first hydrogen bomb that is tossed our way. At least, as long as there is even a remote chance of that first bomb being tossed. Anticipating such a situation, twenty years ago I wrote in a prognosticative article, "The vista of 2000 A.D. is totally unmarred by the skeletal devices we used to call derricks. As far as the eye can reach, there is not a sign of a drilling rig, pump-house, storage tank, still, or any other of the essentials we have always associated with oil operation. Excepting for the enormous cupolas, shaped like mushroom tops, that cover ventilators, entrances to and exits from the underground regions, there is nothing even remotely resembling the facilities that were once so familiar to us."

Lost Landmarks

This, of course, is not quite the picture yet! The derricks are going fast but they are still with us. In fact, Hilda, the new offshore rig that is drilling for Standard and Humble up Summerland way is bigger than ever. It measures 217 feet to the top of the mast; its main deck is 120 feet square, and it will drill 24 wells, two at a time. Another instance of the erroneousness of this particular series of predictions is that new refinery units are being added to existing facilities all over the country to meet the demands of the space age. Across the Pacific, on the Island of Oahu, Standard is building a new refinery which, among other things, will have crude stills, treating plants, a 13,000-barrel-a-day fluid catalytic cracker, alkylation unit, hydrogenation and isomerization facilities, and virtually the only part of the whole thing that will be underground is some miles of pipe. Even that will probably be near enough to the surface so that it is easily accessible for repairs and additions. For crude oil storage alone there is capacity of 1¼ million barrels and among the storage vessels are five of the biggest floating-roof tanks ever fabricated. They hold 240,000 barrels each.

The Burrowing Era

This isn't much like my prognosticative picture of a couple of decades ago, in which I stated that by the year 2000, "war has figuratively driven the oil industry off the face of the earth. The large-scale aerial bombardments that so devastated cities all over the globe during the second world war spelled the doom of surface operation. Sighting devices of infallible accuracy made even the smallest oil container an easy target for flying bombers. Flaming oil became a national hazard and an inexcusable waste. So the oil industry with all other vital industries burrowed into the earth

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Low in height and compact, this new Guiberson stripper speeds up running or pulling tubing because it seals automatically. Rubber requires no tightening or adjustment. Cup-shaped rubber is specially designed to be tear resistant — specially compounded to resist damage from oil, gas or well fluid. Reinforced with steel wires and bushing.

Bayonet-type latch on cover plate makes it easy and quick to remove or install rubber. Handles lock the cover on the body. Cover plate accommodates Guiberson Tubing Spider. Body may be tapped for two 2" side outlets on special order. Pressure rating, 750 p.s.i. working pressure, 1500 p.s.i. test pressure. For 2", 2½" and 3" tubing, and for flange sizes 6"-400, 6"-600, 6"-900, 8"-400 and 8"-600.

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and a new era of existence commenced." Well, it isn't quite that way yet, but we still have 40 years to go before we reach the end of the 19th century.

Oil Finding

The increasing ability of science to measure smaller and smaller increments of everything brought a new accuracy into what Aldous Huxley called "The Brave New World." Concentrations so low that they formerly escaped notice altogether now become significant factors in evaluation. New isotopic and radio-active substances in infinitesimal quantity were found in crude oil in the subsurface and since, so far as was known, they did not occur anywhere else, they became positive indicators of oil deposition. This, naturally, was rather confounding to all the geologists and geophysicists who had long argued that positive identification **in situ** (in place, silly!) was a consummation devoutly to be wished but impossible to attain.

Aerial Surveys

In my mythical age geological surveys were made in amazingly short time over exceedingly large areas of terrain and there is no question that I was dreaming of magnetometry and photogrammetry, particularly the latter. This involves the taking of a series of photos from high in the air and often covering terrain very difficult of accessibility from the ground. The series is later patched together to form a continuous map which enlarged and properly viewed can be most helpful to the earth scientists. Sections in matching pairs are examined stereoscopically to give the third dimension, and a simple system has even been worked out to yield the actual measurement of dips, folds, faults, and other terrestrial formations and malformations that are related to oil finding. As I sized up the situation then, "there was no need for men scrambling over the rocks" and all argument and debate had ceased. The process is so positive that the contour, shape, and all essential dimensions of the oil sand are known before the first well is ever spudded.

Look, Ma, No Hands

After covering the wide gamut of drilling methods from cable tools through advanced rotary, percussion, turbo-power, jet, and rocket bits, the industry of 2000 A.D. has settled down to a timed rocket system. Dozens of wells start from the same location. Free rocket bits, with directional radio control at the surface and telescopic casing, have obviated the need for derricks. The rocket cutter fuel charge is the exact amount to carry the bit to the predetermined depth, as set by the geoscientists, and the cutter, being free, remains in the hole. It is followed in its progress by telescopic casing, incredibly thing but incalculably strong. Without drill pipe, the attachment of a suitable valve assembly at the well-head is no problem. The rocket bit, incidentally, is deviated slightly off course just above the oil sand which is penetrated later by a self-propelled, self-inserting, self-anchoring liner.

The Helium Lift

The wells are devoid of tubing, and pumps are also minus. When oil fails to flow of its own volition it is raised by helium lift. Gas from flowing wells is conducted to a polymerization plant where it is converted into liquid hydrocarbons of lower hydrogen content. The liquid gas goes directly to the refinery and the hydrogen that is freed in the process is subjected to atomic bombardment and then reformed into helium. This together with considerable quantities derived from helium-rich natural gas is then injected into those wells requiring artificial aid to produce. Helium as has been noted in a preceding article is lighter than the lightest hydrocarbon gas and is noncombustible, so besides being effective as a lifting medium it reduces the fire hazard to practically nil. When a well is depleted, that part of the oil which remains adhering to the sand grains or is trapped by capillarity, is recovered by scrubbing the formation with a powerful synthetic organic solvent. This is forced at high pressure through the sands from an injection well and washes them as clean as the proverbial whistle, the oil and solvent are later separated and the solvent is retained for use in other "secondary recovery" wells.

Automation

The petroleum world of tomorrow has no visible tankage. A few underground vessels furnish all the transitory storage that is required. Oper-

Pacific's "Sandman" solves major sand problems

You can count on him for a wide awake analysis of the sand conditions in your well . . . *and*, to make the precise Pacific Gravel Pack Liners, detailed to your specifications . . . Gravel pack liners that will assure *uniform* porosity and *greatest* production.

Pacific's Gravel Pack Liners give positive protection against sand troubles.

Pacific PERFORATING CO., Inc.
Main office and plant: Torrance, California
FAirfax 8-6787 • NEvada 6-5789
For prompt efficient service in:
Bakersfield FAirview 2-4390 Taft ROger 5-4426
Ventura MIller 3-5959 Coalinga Wells 5-2262

ations have finally reached a state of almost millenial perfection and the entire system is so synchronized and controlled that wells can be shut down and opened up at will. The production is measured directly into the pipeline through thermostatic meters and automatic testing devices and thence is immediately transported to the refinery, first, of course, sending the separated gas to the polymerization plant as already noted.

Reshaping the Molecules

Refining has reached that stage of development of which it gave promise even in our times. Hydrogenation, polymerization, alkylation, catalytic cracking and modifications of these have made it possible to manufacture from blended crudes an endless array of products. The characteristics of every petroleum component are intimately known. Their reactions under almost any conceivable set of conditions are also known. Thus the raw product can be disintegrated and the pieces reformed to build strange new rostrums, poisons, explosives, fire preventives, plastics, fibres, foods, anesthetics, antiseptics, and practically anything one's little heart desires.

One to a Customer

Indeed, so many useful products are now made from petroleum that by agreement each plant confines itself to the manufacture of a specific few and is the sole manufacturer of these. Merchandizers are similarly restricted to the sale of a few related commodities. What our government characterized in 1940 as monopoly is now recognized as sound business. The entire industry works in concert in order to perform a multitude of social services in the most economical and most expeditious manner.

New World Safety

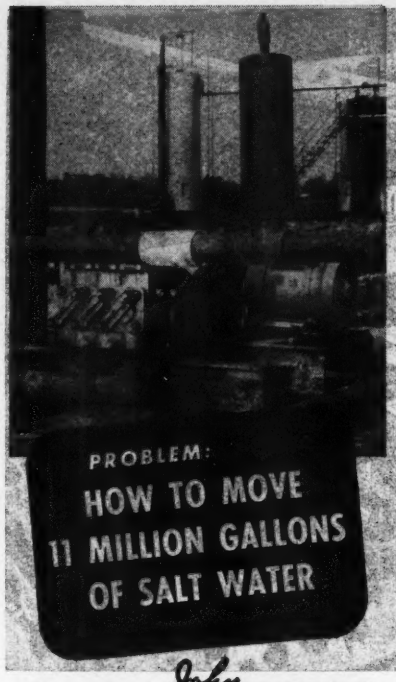
The underground industrial plants are so disposed that any individual unit may be completely isolated from all others and the air surrounding immediately evacuated and replaced with carbon dioxide in case of fire which is not at all likely. Working platforms, by the pressure of a button, can be converted by safety chutes through which workers may slip quickly out of the danger area. Hangars are deep underground and are equipped with catapult escalators that project the planes into the air as they reach the surface. Transportation and freight during peace times is accomplished above ground by helicopter. Survey planes ride away, pilotless, nothing aboard but cameras and other self-operating instruments that are used to accumulate a wide assortment of essential data. Direction is controlled by radio and most of the instruments operate on a time-release basis. Automobiles as we once knew them are non est. Despite their deadly traffic toll they grew in number until the surface highways were so cluttered that movement became impossible. When the workaday world moved underground, the automobile was declared a public inanity and the few remaining pedestrians came out of their hiding places, breathing audible sighs of relief.

Ambulation and Transportation

Privately owned transportation underground became unnecessary. Speedy traveling platforms, escalators, elevators and other species of freight and passenger movers are everywhere available and people exercise their legs so little they would probably disappear entirely through normal evolutionary processes if it weren't for the daily calisthenics that are an essential part of the new existence. As it is, the gams are noticeably shorter and the fore or button-pushing finger is noticeably longer. These are just a few of the ruminations that engage one's cerebellum when trying to make a projection of 60 years in these fast-moving times. Never having dug that kind of nerve-shattering cacophony that sends the juniors into rhythmic apoplexies, I failed miserably to foresee the beatnik epidemic but perhaps that will have spent itself by the year 2000 anyway and there will be nothing to remind us of one of the blackest chapters in cultural evolution but a few ruptured pelvises.

Standard of California Will Operate Kettleman Hills Gasoline Plants

It is contemplated that on January 1, 1961, the Huffman and Western States gasoline plants, located at Kettleman Hills and currently operated by P. S. Magruder, Operator, will be operated by Standard Oil Company of California, Western Operations, Inc.



SOLUTION: John BEAN®

TRIPLEX PUMP

ILLINOIS—Working 48 hours on and 24 off for four years, this John Bean 410 Triplex Pump disposed of over 11 million gallons of salt water. At an Illinois oil lease site, it maintained a volume of 8 gpm at a discharge pressure of 250 lbs., well within the capacity of this pump which operates efficiently at 10 gpm and up to 800 psi.

Dependability is engineered into every John Bean Pump. Long life, low maintenance features include a bronze fluid end, lifetime sapphite ceramic cylinders, and continuous Roto-Splash lubrication.

John Bean Pumps provide capacities from 0.5 gpm to 100 gpm and pressures from 100 psi to 12,000 psi. They accept fluid temperatures to 500° F.

PUMPING PROBLEM?

Send us details on your pumping problem. We will send you complete recommendations.

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FOOD MACHINERY AND CHEMICAL CORP.
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INDUSTRIAL PUMPS

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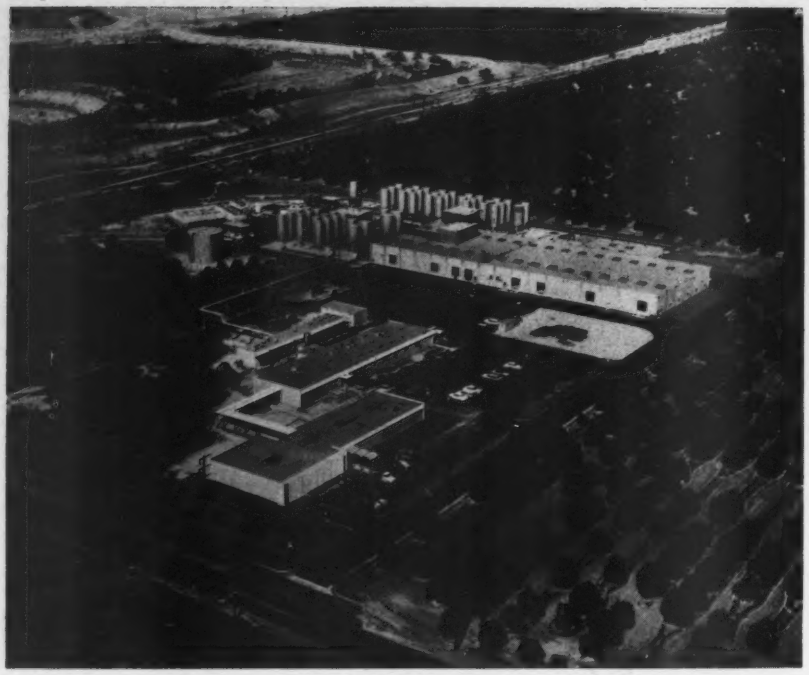


Shown here are the new Brea facilities of Tretolite Company of California as the project approached final completion.

Smith Tool Company Earnings Increase

Smith Tool Company of Los Angeles reported third quarter sales of $2,511,179 with earnings after taxes of $64,782, equal to 16 cents per share on the 406,598 shares of outstanding common stock.

This compares with a net loss in the first six months of the year of $99,200, or 26 cents a share on sales of $3,945,724.

Company President Donald E. Graham said sales for the nine months were approximately equal to those for the first nine months of 1959 when volume was $6,787,744. Sales in the current quarter, he said, are running ahead of those of a year ago.

In his letter to shareholders, Graham said the company expects greater improvement in earnings in the final quarter.

He said the company was actively pursuing a program of diversification in order to broaden the base of operations, stimulate growth, and add to profits. The company's tool division is also engaged in the development of several new products which should add to the volume and maintain the company's position as a leader in the oil tool business, he said.

Tretolite Co. of Calif. Moves to New Location at Brea

Tretolite Company of California division of Petrolite Corporation has completed the move to its new offices and manufacturing plant at Brea, California, according to L. T. Monson, vice president of Petrolite Corporation and general manager of Tretolite Company of California.

Located at 200 South Puente Street (Puente Street and Imperial Highway), the company's new 23-acre Brea site includes an administration building, three laboratory buildings, and a complete, highly automated chemical manufacturing plant.

Formerly located at 5515 Telegraph Road in Los Angeles, Tretolite Company of California division serves the petroleum industry throughout the Pacific Slope, Four Corners area, Hawaii, Alaska, Japan and Formosa (Taiwan).

Schlumberger Foundation Announces Scholarships

Forty young people studying for careers in science and engineering at colleges and universities throughout the U. S. will be helped to further their educations in 1960-61 through $58,200 in scholarship and fellowship grants from the Schlumberger Foundation of Houston.

This year, the Foundation, a non-profit organization established in 1954 by the Schlumberger Well Surveying Corporation and Mr. Pierre Schlumberger, president of Schlumberger, Ltd., has made seven fellowship grants for graduate study and 33 scholarship grants for undergraduate study.

Each fellowship is worth $1,800 to the student and $1,800 more to his university, for a total of $25,200. Scholarships are worth $500 to each student and $500 more to his university, for a total of $33,000.

The Schlumberger Foundation makes its grants annually to universities and colleges in the U. S. as selected by its board of managers. Junior or senior students majoring in engineering or science courses are eligible for scholarships; graduate engineers or scientists pursuing advanced studies are eligible for fellowships.

Scholarship committees in the selected universities choose the students who receive the grants. Colleges have complete discretion in choosing and guiding the award recipients.

Among fellowship and scholarship award recipients for 1960-61 are:

California Institute of Technology —John F. Asmus, Athenaeum, 551 South Hill Avenue, Pasadena, Calif.

University of California—David Loven Pebrson, Route 2, Box 285, Orland, Calif.

Stanford University — Recipient not yet reported.

University of Southern California —Richard F. Schenz, Jr., 4420 North Aspan Avenue, Covina, Calif.

Mr. Cleve B. Bonner, treasurer, left, of the Richfield Oil Corp., Los Angeles, Calif., receives the bronze Oscar-of-Industry for his company from Richard J. Anderson, editor and publisher of "Financial World." The award made at the Financial World 16th Annual Awards Banquet at the Statler Hotel, New York City, on Oct. 24, was one of more than a hundred given for the best annual reports in as many industrial classifications.

The oilman plays in a symphony every working day. His skills blend with the skills of thousands of other experts to help provide the nearly 10,000,000 barrels of oil our nation demands every day. Oil to build, to save lives, to grow food. In oil-hungry tomorrow, the demands will be even greater. He'll meet them. So will you. If you should hear someone speak out against oil—tell him you're an oilman and proud of it. And tell him why.

SHELL OIL COMPANY

SHELL

Oil Producer's Agency of California Recommendations For First Half 1961 Import Quota District V

Recommended Quota
First Half 1961 — District V

Oil Producers Agency's estimates of supply and demand in District V for the first half 1961 are submitted below for the information of the U. S. Bureau of Mines.

The estimates result in a total deficit of 284,000 B/D. On the assumption that product quotas will remain the same at 11,000 B/D, the crude deficit would be 273,000 B/D. From this amount should be subtracted overland imports, pursuant to Presidential Proclamation No. 3328, with the remainder to be allocated to eligible importing companies.

Supply	1,000 B/D
California Crude Production	840
Alaska Crude Production	5
California NGL Production	80
4 Cor. P/L Crude	80
Product Receipts	105
Total	1,110
Demand	**1,000 B/D**
Civilian Domestic	1,195
Military	110
R/T Shipments	6
Intercoastal	3
Pacific Foreign	80
Atlantic Foreign	0
Total	1,394

Supply

California Crude Production: 840,000 B/D. Production in California began the year at 829,000 B/D, increasing 9,000 B/D to 838,000 B/D in June. Since that time there has been a price increase for heavy crudes.

It is our contention, based upon actual historical performance in the District V industry, that this increase in price will bring out additional supply, particularly of heavy crude, production of which, because of drastic price cuts in 1958, has decreased some 20,000 B/D since that time. We therefore believe that our estimate of 840,000 B/D as the California production rate, which is only 2,000 B/D higher than June production and only 7,000 B/D higher than the average for the first six months of 1960, is realistic.

Tending also to increase California production from its present levels are the further development and expansion of secondary recovery projects and development of offshore leases.

Alaskan Crude Production: 5,000 B/D. Development in Alaska, and the construction of a pipeline there, account for this estimate.

Natural Gas Liquids Production: 80,000 B/D. This is the rate of the first six months of 1960. Natural gas liquids production has a historical average of 9.5% of crude production. This ratio to 840,000 B/D of crude production is 80,000 B/D.

Four Corners Pipeline Supply: 80,000 B/D. This is the capacity of the line and as such should be considered the "domestic supply available to the area." (Cabinet Committee Reports dated July 29, 1957; December 12, 1957.)

Product Receipts: 105,000 B/D. This is the approximate current rate. We see no reason to anticipate a decrease, particularly in view of announced plans of certain companies to "import" gasoline into District V from the Gulf Coast.

Demand

Civilian Domestic: 1,195,000 B/D. The average annual rate of increase in first half civilian domestic demand over the past five years (1956-60, inclusive) is 2%. The foregoing figure, 1,195,000 B/D, is approximately 2% higher than first half 1960 civilian domestic demand.

Military: 110,000 B/D. The approximate rate of the first half 1960. We are aware of no reason to anticipate an increase.

Rail and Truck Shipments: 6,000 B/D. This is an almost constant demand figure.

Intercoastal: 3,000 B/D. We again reiterate that any figure higher than this is symptomatic of distress conditions in the District V industry, as was pointed out in our statements of May 17, 1960, and October 16, 1959, and in a statement attached hereto.

In the present instance, however, we see no possibility of the continuance of intercoastal shipments at anywhere near recent levels. During 1958-59 and, to some extent, the first half 1960, these shipments were typically distress movements; as a consequence, much if not all of the surplus which led to them has been dissipated. We, therefore, believe that such movements will be reduced to normal levels, 3,000 B/D.

Pacific Foreign: 80,000 B/D. This is the approximate average of the first halves of the years 1956-60 inclusive.

Atlantic Foreign: Zero. These shipments, which occur only on rare occasions, also should be disregarded. They are in the same category as intercoastal shipments.

Summary

The foregoing estimates forecast an available domestic supply of 1,110,000 B/D in District V. Demand is estimated at 1,394,000 B/D. The deficit to be made up by imports therefore is 284,000 B/D. Of this amount, it is assumed that the product import quota will remain at 11,000 B/D, leaving a crude deficit of 273,000 B/D.

Some part of this deficit will be filled by exempt overland imports from Canada, the volume of which is ascertainable by the Oil Import Administration. To illustrate, however, if such imports were to be 60,000 B/D, the crude and unfinished oils quota to be distributed among importing companies in District V would be 213,000 B/D.

A first half 1961 quota not to exceed 273,000 B/D, including exempt overland imports, would carry out the policy of the oil import program with respect to District V, namely: one which is the "maximum level . . . which . . . will approximate total demand in that district . . ." (Presidential Proclamation 3328).

Signal Research Group To Move to So. California

Dr. A. S. Kasperik, director of research and development of Signal Oil and Gas Company, will move his headquarters from Houston to Los Angeles, it was announced by Samuel B. Mosher, chairman of the board.

The move, scheduled for November 1, enables Kasperik's group to better serve the company's expanding over-all manufacturing operations, Mosher said.

The company's Houston division was formerly Eastern States Petroleum and Chemical Corporation, which merged with Signal in 1959.

Californian Named President of Shell Oil Company

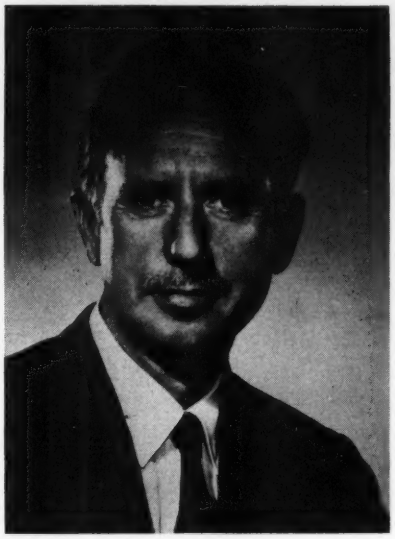
Monroe E. Spaght has been elected president of Shell Oil Company to succeed H. S. M. Burns, who will retire at the end of this year, it was announced by the company's board of directors after a meeting in New York October 27.

Mr. Spaght, who started his career with Shell as a research chemist, has been an executive vice president since 1953. Before that, he was president of Shell Development Company, Shell's research affiliate.

Well known in scientific and educational fields, Mr. Spaght is a director of Stanford Research Institute, American Petroleum Institute, and the Institute of International Education. He is a trustee of Stanford University, from which he holds A.B., A.M. and Ph.D. degrees. In 1958, Rensselaer Polytechnic Institute conferred on him an honorary Doctor of Science degree.

Spaght, a native of Eureka, California, joined Shell in 1933 at its Martinez, California, refinery. After working through all phases of refinery operation, in 1940 he became manager of the technological activities of Shell manufacturing operations on the West Coast. During the war he served on many government technical committees. In 1945 he was a member of the U. S. Naval Technical Mission to Germany and a director of the U. S. Strategic Bombing Survey in Japan. Upon his return to Shell in 1946, Mr. Spaght was appointed vice president of the Shell Development Company, and in 1949 was named president of that company.

Mr. Burns became president of Shell in 1947. During his term of office the company's annual revenues have risen from 632 million dollars to over 1,850,000,000 dollars. He has been active in the petroleum industry and in civic and cultural affairs, serving as a director and chairman of the American Petroleum Institute, president of the Fifth World Petroleum Congress, a trustee of the National Safety Council, National Fund Chairman of the American Red Cross, and a director of the New York Philharmonic Society.



Monroe E. Spaght

Burns joined Shell as a geophysicist in California after being graduated from the University of Aberdeen and receiving his Master's degree in mathematics and physics from Cambridge University. He later transferred to the marketing department, serving for ten years in various locations on the Pacific Coast. Following extensive experience in Venezuela and Colombia, where he was general manager, he returned to the United States in 1946 as senior vice president of Shell Oil Company. He received an honorary Doctor of Laws degree from the University of Aberdeen in 1956 and an honorary Doctor of Science degree from St. Louis University in 1957.

UOP Forms Subsidiary To Market Catalytic Muffler For Motor Vehicles

Universal Oil Products Company, Des Plaines, Ill., has formed a subsidiary with offices in Los Angeles to establish operations for marketing Purzaust, UOP's catalytic muffler to aid in smog-control.

Office of the subsidiary, Universal Oxidation Processes, Inc., is at 811 West 7th Street. Universal Oxidation will "handle the manufacturing and marketing of Purzaust upon its certification by the state Motor Vehicle Pollution Control Board," M. P. Venema, president of the parent company, said.

Purzaust is one of a number of devices under study by the California board as a means to aid in the reduction of smog in the Los Angeles area. Motor vehicles will be required to use a device to remove unburned hydrocarbons and carbon monoxide from exhaust gases after at least two devices are certified by the MVPC Board. Automotive exhaust is believed to be a major cause of smog.

Purzaust is designed for installation on new vehicles or as a replacement of standard mufflers on older ones, Mr. Venema said. It contains a catalyst for converting smog-causing components in exhaust gases into non-irritating compounds. Close to a half million miles of road testing by UOP shows that Purzaust will assure satisfactory performance over extended periods, he said.

Purzaust and an animated display of the device in operation were exhibited by UOP at the Los Angeles County Fair, September 16 through October 2.

Halliburton Annual Report Rates Best for 1959

Halliburton Company was awarded a bronze "Oscar" at a banquet in New York City on October 24 as one of the winners in the twentieth Annual Report survey sponsored by Financial World, national weekly magazine.

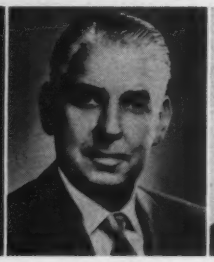
Close to 5,000 reports were reviewed in 96 categories during the 1960 competition. In the Industrial Equipment classification, Halliburton won top honors in a field of 20 merit award winners from which the Oscar winner is selected.

J. E. Thomson, controller, was directly responsible for the preparation of the firm's 1959 annual report, while general supervision was furnished by John P. Harbin, financial vice president. The material for the report was written and gathered by seven other members of the Halliburton financial department.

This is the firm's second first-place trophy; the other was won in 1956. Halliburton has ranked among the top three recipients of the annual report awards every year since it became a publicly owned corporation in 1948.

Californians Receive Certificates of Appreciation from A.P.I. at 40th Annual Meeting in Chicago, Nov. 14, 1960

John C. Ruddock
Richfield Oil Corp.
Medical Advisory Committee

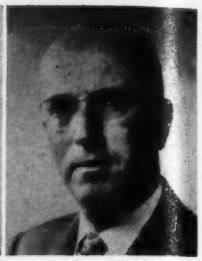


E. E. Wickman
Shell Oil Co.
Transportation

George H. Supple
Mobil Oil Co.
Crude Oil Measurements

Oliver W. Johnson
Standard Oil Co. of Calif.
Accident Prevention

G. R. Lake
Union Oil Co. of Calif.
Fundamental Research



James E. Hill
Union Oil Co. of Calif.
Accident Prevention

Philip S. Magruder With Mobil Oil Thirty-five Years

Philip S. Magruder, assistant to the president of Mobil Oil Company, marked 35 years of service with the company on November 1. Magruder is personal representative on the Pacific Coast for Mobil's president, Herbert Willetts. He was executive vice president of General Petroleum Corporation prior to the merger of that company with Mobil Oil Company on January 1.

A native of Texas, Magruder joined General Petroleum in 1925. He was named manager of manufacturing and elected a director in 1945. He became a vice president in 1946 and executive vice president in 1948.

Magruder is on the board of directors of Western Oil and Gas Association. He represents Mobil on the board of governors of the Pacific Oil Institute and other business and industry groups in the West.

Active in the petroleum industry, Magruder is one of the founders, a past president and a director of the California Natural Gasoline Association, a member of the board of councilors of the American Petroleum Institute. Since 1955 he has been president of the Kettleman North Dome Association. He is a former chairman of the Air Pollution Control Committee of Western Oil and Gas Association.

P. S. Magruder

Magruder is a member of the Los Angeles Chamber of Commerce, the California State Chamber of Commerce, a director and vice president of the California Manufacturers Association and a member of the Los Angeles World Affairs Council.

Magruder also is active in youth welfare work and is a former president of the Los Angeles Area Council of the Boy Scouts. In 1956 he was presented the Silver Beaver, his Council's highest adult award. In 1957 an elementary school was named in his honor in Torrance (Calif.), where a Mobil refinery is located.

A member of the Los Angeles Rotary Club, Magruder is a member and past president of the Los Angeles Petroleum Club, a member of the California Club, the Los Angeles Country Club and Al Malaikah Temple of the Shrine.

Quarterly educational field trip took Desk and Derrick Club members of Long Beach, Orange and Ventura Counties to Union Oil Company's refinery at Wilmington, Saturday, October 1.

B and W Inc.

PRIMARY CEMENTING TOOLS

For a Good Cement Job

3 REQUIREMENTS FOR A GOOD CEMENT JOB

Field research, as reported in technical papers, has confirmed that

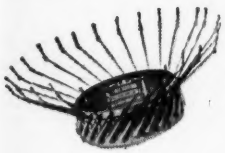
1 SCRATCHERS 2 CENTRALIZERS 3 MOVEMENT OF CASING

are the three requirements for elimination of channeling and the complete displacement of mud behind the casing by ascending cement slurry.

All of these elements are equally essential, and a full-coverage, standard pattern installation is your best insurance **for a good cement job.**

Don't Squeeze $ Don't Squeeze $ Don't Squeeze

B and W Scratchers – for rotation or reciprocation



B and W produced the industry's first scratcher 20 years ago. The development of the multiple-strand scratching unit, the B and W Multi-Flex Scratcher, solved the problem of mud removal, and resistance to deformation in normal or enlarged holes. The hinged structure of the B and W Hinged Nu-Coil Scratcher simplified installation on the casing.

Field usage over a 20-year period has confirmed the results established by research, and the choice of scratcher usage **OR** expensive "block" squeezing must be made by management on a cost basis.

Don't Squeeze $ Don't Squeeze $ Don't Squeeze

B and W Centralizers – with the stronger KON-KAVE BOW

Following World War II, B and W Inc. introduced the original hinged centralizer — the B and W Latch-On Centralizer — and this design has now been generally accepted throughout the industry.

B and W Centralizers are the best and most dependable tools for

(1) Getting casing to bottom
(2) Combining with scratchers to prevent channeling
(3) Centering the casing in the drilled hole for an equalized column of cement

The outstanding construction features include:

(1) **Hinged Feature** — for easy installation
(2) **KON-KAVE BOW** — Cross-sectional arch for greatest strength
(3) **Highest Quality Spring Steel** — triple heat treated
(4) **Three Bow Designs** — For positive centering in various hole size/casing size combinations; e.g., 5½" casing in 6¾", 7⅞" or 8¾" hole.

Don't Squeeze $ Don't Squeeze $ Don't Squeeze

B and W Friction-Lock Clamp

Eliminate welding on casing and save money with this positive holding device.

GULF COAST
Box 5266
Houston 12, Texas
Phone WAlnut 3-6603

B and W Incorporated

Well Completion Specialists

WEST COAST
19706 S. Normandie Ave.
Torrance, California
FAculty 1-2463

147

E. D. Brockett

W. K. Whiteford

Top Management Changes Announced by Gulf Oil

Gulf Oil Corporation's board of directors has announced several major changes in the company's top management.

W. K. Whiteford, company president since 1953, was elected chairman of the board, succeeding Ralph O. Rhoades, who recently reached retirement age. Mr. Whiteford will continue as chief executive officer and Mr. Rhoades will remain on the board of directors.

E. D. Brockett, formerly executive vice president, was elected president. Additionally, he will be vice chairman of the executive committee.

All actions are effective the end of October.

W. K. Whiteford has had a long and colorful career in the oil business that began in the early twenties when he was employed as a roustabout in the fields of Southern California.

Several years later, he joined the Barnsdall Oil Company as a production engineer in the field and successively became general superintendent, vice president and general manager of Barnsdall's Mid-Continent Division. In 1935, he joined The British-American Oil Company, Limited, as executive vice president of its U. S. producing subsidiary, British-American Oil Producing Company. Seven years later, Mr. Whiteford was elected executive vice president of British-American and transferred to its headquarters in Toronto. In 1943, he was elected president of B-A, and in 1951 was elected chairman of its board.

In October, 1951, he terminated his association with British-American when he was elected a director and executive vice president of Gulf Oil Corporation. In April, 1953, he was elected president and chief administrative officer of Gulf and in 1954, he was given the additional title of chief executive officer of the corporation.

Second to W. L. Mellon, one of the company founders who was elected to the presidency at the age of 41, Mr. Brockett is the youngest employee to be elevated to this position in Gulf. He is 47.

A petroleum engineer by profession, Brockett joined Gulf as a roustabout in the oil fields of West Texas following his graduation from Texas A&M College in 1934. He subsequently was promoted to petroleum engineer and in 1940 was called to military service as a first lieutenant.

Discharged in 1945, with the rank of Colonel, he returned to Gulf as Staff Engineer in its Fort Worth Production Division.

Two years later, he returned to the Pittsburgh general office as coordinator of production on a world-wide basis. In April, 1958, he was elected a director, president and chief executive officer of The British-American Oil Company, Limited. And on January 1, 1960, he returned to Gulf as executive vice president. Later that same month, he was elected a director of the corporation and a member of the executive committee.

Nordon Corp., Ltd., Acquires Helm Oil Field Property And Begins Drilling

Nordon Corporation, Ltd., which just took over 60 producing oil wells in four California counties, has further added to its assets with acquisition of approximately 450 acres of Fresno County, Calif., property on the highly productive Helm Oil Field, it was announced by president Harry C. Long.

Drilling of the first of three planned wells has just begun, with contract for the development program awarded to R. B. Montgomery Drilling, Inc., of Bakersfield, Calif. Petroleum engineers on the project are Kemnitzer & Diepenbrock.

Calif. Natural Gas Assn. 35th Annual Fall Meeting

F. H. Lacy, Jr., manager of the Natural Gas and Gasoline Department, Honolulu Oil Corporation, was honored at the Annual Award Luncheon for his outstanding contributions to the Association and the natural gasoline industry.

This award was presented during the 35th Annual Fall Meeting of the California Natural Gasoline Association held in Santa Monica October 13 and 14.

Mr. Lacy was presented the Award for Meritorious Achievement

Annual Award Luncheon of California Natural Gasoline Association

by Mr. J. B. Taylor, chairman of the awards committee and past president of C.N.G.A. Lacy was honored for his service in both the technical and administrative phases of the industry.

Service Awards of Merit for outstanding work on technical committees were presented to Ira C. Bechtold, consultant; Bruce A. Eckerson, Signal Oil & Gas Co.; C. J. Smith, Western Gulf Oil Co.; and J. H. Watson, Union Oil Co. of California.

The all-electric oil rig goes to sea

Two miles off the California coast, near Santa Barbara, a man-made platform known as "Hazel" stands in 100 feet of ocean. On it, crews drill for oil. Their equipment is all-electric.

This is the Summerland oil rig developed by Standard Oil Company of California and Humble Oil and Refining Company. It was designed to drill up to twenty-five wells from the same site, two at a time. It is powered from shore by a two-mile 16 kv underwater cable.

Economical and dependable power

Electricity was selected to power this rig for two reasons. First, economy. Maintenance is handled by only one man working only three hours a week. And there is no need to haul fuel from shore—no expensive storage tanks to build in the ocean.

Second, dependability. Fewer moving parts reduce the chance of breakdown and require less maintenance. Equipment operates around the clock.

The Summerland rig is an outstanding example of the advantages of electric oil well equipment. Whatever, or wherever, your power problems may be, find how easily they can be solved by inexpensive, dependable electricity. Just call your local Edison office. One of our power consultants will be glad to review the details with you.

SOUTHERN CALIFORNIA Edison COMPANY

Personalities IN THE NEWS

C. T. "Clint" Furrer

C. T. "Clint" Furrer Retires

C. T. "Clint" Furrer, assistant regional manager, Standard Oil Company of California, Western Operations, Inc., retired October 31 after 44 years of service with the company.

Furrer, a native of Iowa, joined Standard in 1916 as a service station salesman at Portland, Oregon. He entered the army in 1917 and then rejoined Standard again in 1919. Subsequently his career took him through a succession of increasingly important sales management assignments in cities throughout the Pacific Coast. Since 1945 he has been headquartered in Long Beach.

He has held a wide variety of posts in petroleum industry groups and other business organizations, including the Long Beach Rotary Club, Better Business Bureau and the Long Beach Chamber of Commerce. He is presently serving on the board of trustees for the Long Beach Memorial Hospital.

One of the many highlights of Furrer's career occurred in 1955 when he was awarded the Distinguished Public Service Award by the U. S. Navy. This is the highest tribute that can be paid by the armed services to a civilian and was given to him for his work as chairman of the Armed Services Committee of the Long Beach Chamber of Commerce.

Furrer resides in Corona Del Mar with his wife, Arty, and upon retirement plans to continue his work with the Armed Services Committee of the Long Beach Chamber of Commerce.

D. G. Kingman Marks Thirty Years With Mobil Oil Company

Douglas G. Kingman marks 30 years of service with Mobil Oil Company this month.

Kingman has held various positions with Mobil, including assistant production engineer at Vernon, production superintendent and division superintendent at Taft, and manager of joint venture operations in Los Angeles. He is now joint venture manager of the Los Angeles Exploration and Producing Division.

A native of Riverside, he is a graduate of the California Institute of Technology.

Kingman will receive a diamond lapel emblem signifying his length of service.

Recent Standard Oil Co. Promotions At California Research Corporation

Dr. R. L. LeTourneau has been promoted from group supervisor to supervising research chemist, Analytical and Physical Measurements Section, Richmond Laboratory.

Dr. J. F. Johnson has been promoted from group supervisor to supervising research chemist, Analytical and Physical Measurements Section, Richmond Laboratory.

S. G. Miller has been promoted from research engineer to group supervisor, Refinery Technical Service, El Segundo Laboratory, replacing **E. H. Lynch,** who has been promoted to supervising research engineer in Refinery Technical Service at the Richmond Laboratory.

R. G. Hawthorne Promoted By Union Oil Company

Robert G. Hawthorne has been promoted to senior research engineer at Union Oil Company of California's Research Center, Brea, California, according to an announcement by **Dr. W. E. Bradley,** director of research.

Norman E. Shaw

Collier Expands Industrial Chemical Sales Activities

Collier Carbon and Chemical Corporation has announced the appointment of **Norman E. Shaw** as general manager of industrial chemical sales. A graduate of Stanford University in Chemical Engineering and Engineering Administration, Shaw was previously sales manager of the National Chemical Products Department of Kaiser Aluminum and Chemical Corporation.

Shaw will direct Collier's expanding sales and marketing activities in the industrial chemical field.

Waukesha Motor Co. Pres. James E. DeLong Retires — C. E. Nelson, Jr. Elected

James E. DeLong, president of the Waukesha Motor Company of Waukesha, Wisconsin, manufacturers of heavy-duty internal combustion engines for nearly 60 years, has announced his retirement. Mr. DeLong has served as president for the past 25 years.

At a meeting of the board of directors of the company, following the annual stockholders' meeting on October 18, the directors accepted Mr. DeLong's decision to retire and elected his successor, **Charles E. Nelson, Jr.,** formerly executive vice president.

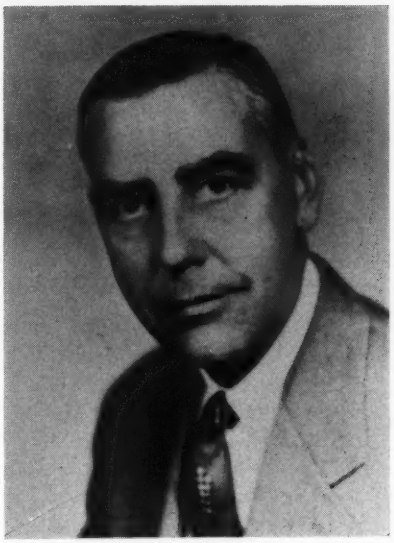
Other officers elected were **J. G. Swain,** vice president, and **L. W. Youker,** secretary and treasurer. **N. H. Willis** was appointed vice president of engineering and **J. J. Kleinbrook** was appointed assistant secretary and assistant treasurer.

Mr. DeLong entered the internal combustion engine field with the Rutenber Motor Company of Logansport, Indiana. Later he became a director and secretary of that company. After terminating military service in 1919, he became plant manager of the Indiana Truck Corporation. In 1923 he joined the Waukesha Motor Company as an oil field sales engineer, advancing to plant manager in 1928. He was elected a director and vice president in 1932, and four years later became president and general manager.

Under DeLong's direction the company has grown to be one of the largest independent manufacturers of heavy-duty industrial combustion engines, with plants in Waukesha, Clinton, Iowa, and Houston, Texas. The company owns branches in Tulsa, New York, and Southern California. A worldwide network of distributors—over 50 of them in the United States and others in nearly every civilized country—sell Waukesha engines and engine-driven products.

Charles E. Nelson, Jr., joined the Waukesha Motor Company in 1929. His earliest activities with the company were connected with the financial department and led to his appointment in 1933 as secretary and treasurer of the Fageol Truck and Motor Coach Company of Oakland,

James E. DeLong



Charles E. Nelson, Jr.

California, at that time a subsidiary of the Waukesha Motor Company. Returning to Waukesha in 1934, he became factory production manager, and in 1936 was made director of purchases and production planning. In 1947 he was appointed assistant to the president and in February, 1949, he was appointed vice president in charge of production. He was elected to the board of directors in 1951 and to the position of secretary and treasurer in 1955. In 1957 he was elected executive vice president.

Mr. Nelson brings to his new office a wide range of experience gained in industrial purchasing, production, and management fields. He is a past president of the Milwaukee Chapter of the National Office Management Association, and a member of the Army Ordnance Association. He has been active for many years on the Executive Committee of the Internal Combustion Engine Institute, the Department of Defense Internal Combustion Engine Industry Advisory Committee on Engine Standardization, and the Engine Standardization Review Committee of the Corps of Engineers. He is a director of the First National Bank of Waukesha, the Waukesha Tool Company, Alloy Products Corporation, and the Outboard Marine and Manufacturing Company.

Texaco Names T. L. Kunkel To Los Angeles Producing Post

Turner L. Kunkel has been appointed Los Angeles Producing Division manager of Texaco Inc., effective immediately, it was announced by **A. W. Baucum,** vice president in charge of the Domestic Producing Department. Mr. Kunkel will be in charge of all Texaco production activities in California, Oregon, Washington and Alaska.

He succeeds **J. Harold Puls,** who will retire January 1 under the company's pension plan after 35 years' service.

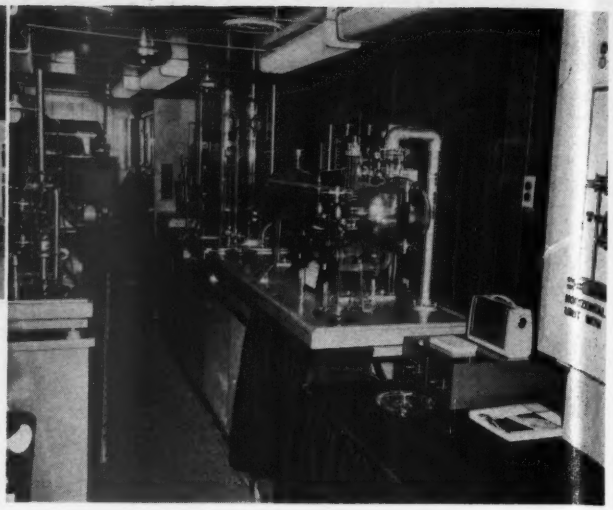
Kunkel has been chief geophysicist of Texaco's Exploration Division at Houston, Texas, since 1957. He will be succeeded in that position by **Dosh T. McCreary,** formerly assistant chief geophysicist.

Kunkel, who joined Texaco in 1934, held various producing assignments in Louisiana and West Texas until 1950, when he became seismologist at Fort Worth. He was made supervisor of field operations there in 1951. In 1953 he was transferred to Houston as assistant to the manager and was named assistant geophysical division manager in 1955.

Formula 1-R Prevents "Gyp"

Controlled solubility phosphate formula 1-R, developed especially to prevent the formation of "gyp" in oil field operations, is the subject of a new bulletin just issued by Hagan Chemicals & Controls, Inc., Pittsburgh.

Detailed information as to composition, application, advantages and recommended treatment are contained in the bulletin.



National Sales Company Demonstration on Tour

Anyone in the California petroleum industry who is concerned with the separation of oil, water, and gas should be on the lookout for the traveling exhibit of the National Tank Company, of Tulsa, Okla. (doing business in California as National Sales Co.), which is currently making the rounds of the Basin, Coast, and Valley oil areas here, and is by all means worth a visit. This is an interesting demonstration in transparent plastic vessels of the mechanics by which the well effluent is filtered to remove sediment, is treated thermally to break emulsions or remove water, and is thence separated into the three components.

The gas is then directed to a glycol absorption unit where it is dehydrated, and is finally treated in a series of towers where by preferential adsorption under accurately controlled conditions, it can be made to yield an end product of any desired composition within the range of the hydrocarbons it contains.

That roughly is the general plan of the demonstration but it is the detail that will command the attention of the expert, for every step of the process is made clearly visible by the use of transparent plastic and a choice of appropriate liquids. The heat exchangers, baffles, filters, and all the involved paraphernalia, including distillation units for recovering the glycol, and adsorption units for the capture and stabilization of the dehydrated gases, can be seen performing their respective functions. It is even possible in the initial stages to follow the gas stream as it bubbles on its charted way to the dewatering unit.

Needless to say, these working models are miniatures of actual field units and it is to be noted that the glycol treater, for example, is mounted on skids. All that is necessary to commence operations, thus, is to tie into supply and delivery lines. Even the skids are extra-functional to conserve space, since in actuality they are also heat exchangers.

Especially appealing to the methodical mind is the fact that the entire system is completely automatic, or at least can be where that is desired. The flow from the well is metered thermostatically and recorded in terms of oil at 60°F., and not only that but when the well has produced its allowable, the valve on the flowline is promptly closed. By means of further automatic controls, digital computers, and recorders, the system can be applied to 25 wells or any multiple of 25. During the period of the run, quantitative data on oil, gas, and water are stored and displayed by digital counters, and are ultimately typed along with such pertinent information as the well designations, time, and date for permanent record. They can even be teletyped to distant headquarters if that is desired.

The demonstration further includes visual models of demulsifiers, treaters, special valves, regulators, etc., used in the manufacture of the various separatory systems. It is in reality a condensed education in modernistic methods of handling and treating oil and gas from the moment of its delivery at the wellhead until it is turned over to the transportation departments.

Accompanying the display are a group of technicians who are thoroughly versed in all aspects of the different processes and will be happy to elucidate for the benefit of anyone who is interested. Among them are Jack Godwin from company headquarters in Tulsa, Okla.; S. S. Parker, president of National Sales Co. of San Francisco; and local representatives Rex Meyers, Ventura; Tom Denton, Bakersfield; and Bill Becker, Los Angeles. The time schedule for the caravan is as follows: Los Angeles, Nov. 7-9, inc.; Signal Hill, Nov. 10-14, inc.; Ventura, Nov. 15-18, inc.; Bakersfield, Nov. 21-23, inc., and Nov. 28 and 29; Rio Vista, Dec. 1 and 2; and a trip is also projected for San Francisco but dates have not been definitely set as we go to press.

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These tax decals show your customers that nearly one-third of their gasoline dollars go for taxes—not gasoline! So, if you don't have decals up—or if your old decals don't show the latest changes in gasoline taxes—send for FREE up-to-date decals—NOW!

And when your customers ask about high gasoline taxes, give them these facts:

- In the last 10 years there have been three increases in the Federal gasoline tax alone.
- The taxes have skyrocketed 51%—yet the price of gasoline itself has risen only 5.5% during the same period.
- Gasoline taxes amount to a 50% sales tax—and that's five times as high as the tax rate on luxuries like diamonds and mink coats.
- On a nationwide average car owners pay about $1 in Federal and state taxes for every ten gallons of gasoline.

So make sure you have *up-to-date tax decals* on your pumps—make sure you *don't take the blame for high gasoline taxes!*

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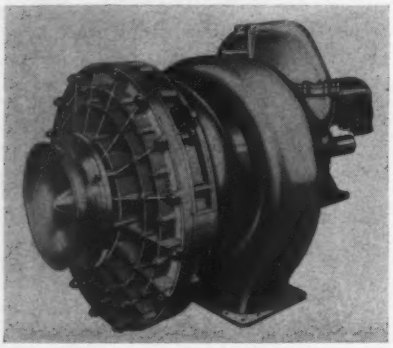
Committee on Public Affairs of the American Petroleum Institute

Waukesha Announces New Gas Turbine

The Waukesha Company of Waukesha, Wisconsin, manufacturer of heavy-duty industrial internal combustion engines since 1906, has developed an industrial type gas turbine.

This new unit develops 400 horsepower for use in industrial, military, marine, automotive, oil field, and similar applications. The design, assembly and testing of the turbine was done in collaboration with the Williams Research Corporation in that company's laboratories near Pontiac, Michigan.



New gas turbine by Waukesha

The simple ruggedness of the new turbine represents a radical departure from the light weight complex aircraft turbines currently being converted by aircraft companies for industrial uses. It incorporates a centrifugal compressor, annular combustor, two-stage turbine section, and integral speed reducing gear case. The unit is a free shaft engine, providing ideal high torque characteristics for truck and off-the-road vehicle applications and can be converted to a fixed shaft version for alternator drive and other constant speed applications.

The 400 hp rating can be provided at output shaft speeds of 2,500 rpm or 3,600 rpm with the free shaft feature providing very high torque at zero rpm. It is anticipated that this same engine will be rated in the future at 600 hp for some applications.

The conservative design provides for a full power minimum period, between overhauls, of 20,000 hours. This overhaul period should be extended many-fold at reduced power ratings. The use of sleeve bearings, throughout (including high speed shafts bearings), is one of many innovations identifying this engine as a heavy-duty unit.

Dual Wellhead Production Unit by Black, Sivalls & Bryson

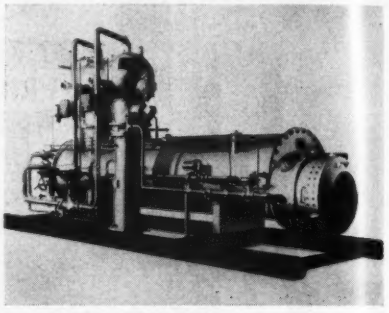
A new dual wellhead production unit that processes two separate wellstreams simultaneously has been introduced by Black, Sivalls & Bryson, Inc.

Called the FREE-O-FREEZE "Double Dip," the unit consists of two spherical separators integrally mounted on one indirect fired heater. The dual unit has all the advantages of the popular single FREE-O-FREEZ unit, including continuous trouble-free cold weather operation.

The heater has two separate flow coils and chokes. The separate wellstreams are heated, choked, then processed in the individual separators. Separators are three-phase, with the water section of the separator submerged in the heater water bath. The heater has a fuel gas drip and flash arrestor. The flash arrestor provides maximum burner safety and eliminates the possibility of flashback. Wellstream is preheated in the heater flow coil before choking to prevent hydrate formation in the separator.

The displacement element for water dump is hung vertically in the separators, completely immersed in the liquid section, making for easier control of interface of oil and water. Submerged liquid section has sufficient area to warm the liquid in it but there is little heat transference to upper gas section. Lower liquid is kept warm independent of sales gas temperature. Variations of flow recorded on the gas chart are kept to a minimum by setting oil dump controls on throttling and water dump controls on snap. Snap acting water dump helps prevent freezing.

The dual spherical separators and indirect heater form a compact, automatic, skid-mounted unit for continuous lease operation in the coldest weather.



Dual well head production unit

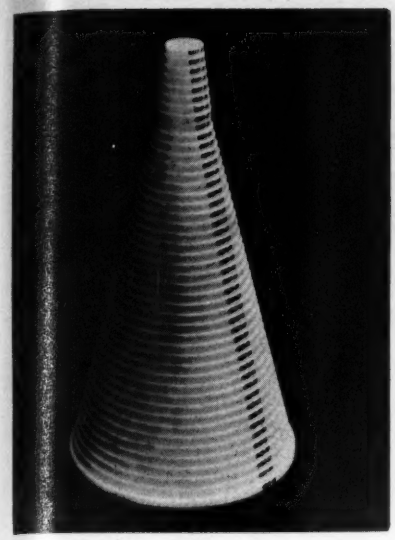
For more information, write to Black, Sivalls & Bryson, Inc., Product Information Department, 7500 East 12th Street, Kansas City 26, Missouri.

New Baker O-Ring Gage for Easy Size Identification

Baker Oil Tools, Inc. is now offering a relatively light and compact gage for quick and easy size identification of O-Rings from 1" ID through 6¼" ID.

An unmarked O-Ring, which in the past may have been discarded because of the time required to identify it or through fear of a tool failure that could be caused by the use of the wrong O-Ring, now may be dropped onto the Baker O-Ring Gage and instantly identified by reading the size directly from the side of the step it fits.

The gage is made of solid polyurethane foam for long life and shape retention. A canvas cover is provided with each gage to protect it when it is not in use, and a



Baker O-Ring Gage

threaded connection in the base makes possible a rigid mounting if movability is not required.

For further information contact Baker Oil Tools, Inc., Dept. "RC," P. O. Box 3048, Houston 1, Texas.

Shell Oil Co.'s "Watchman"

A new "watchman," believed to be the largest of its kind, is on duty day and night at Shell Oil Company's giant Taylor lease in the Ventura Avenue Field.

Properly termed a "lease automatic custody transfer" unit (LACT), the "watchman" has won enthusiastic applause from Shell officials for accurately measuring and shipping oil produced at the Taylor lease — Shell's largest producing lease at 22,000 barrels a day.

Accurate records maintained by LACT in the performance of this job play an important role in protecting the interests of all parties involved in transfers of crude oil from seller to buyer.

The Taylor lease was placed on automatic custody transfer at a cost of about $23,000, but Shell officials feel that they saved more than that amount the minute the unit went into operation.

That's because LACT eliminated the need for a 15,000-barrel inventory of crude oil—worth about $41,000—which always was kept on hand in the old system of storage tanks.

Under this system, the crude was turned into the storage tanks and measured and sampled only after a full tank was ready for shipping.

"The new unit measures and samples constantly, thereby eliminating the need for large storage facilities," according to S. G. Wiles, Division Mechanical Engineer who supervised installation of the unit.

Wiles says that Shell's success with LACT at the Taylor lease will lead to the installation of seven more such units in the Ventura Avenue Field, four at South Mountain and three at Saticoy.

By the end of this year, Shell expects to have 26 LACT units in operation in its Pacific Coast Area. They will meter about 48,000 barrels of crude oil daily.

Jones and Laughlin Brochure on Safety Belts

A multi-color brochure describing a complete new line of Safety-Weave synthetic web belt slings has been published by the Wire Rope Division of Jones & Laughlin Steel Corporation, Muncy, Pa.

The brochure contains useful information about both nylon and Dacron slings.

PINPOINT ACCURACY—Two Shell employees check one of three meters which accurately measure the amount of crude oil produced and sold from Shell's Taylor lease in the Ventura Avenue Field. The meters are part of a lease automatic custody transfer unit (LACT), believed to be the largest such device now in operation. The men are Watt Lupton, left, district production superintendent, and L. F. Romalho, district gauger, transportation and supplies pipe line department. About 22,000 barrels of crude oil a day flow through the meters and into a pipe line.

Next Time Call

You'll Be Glad

You Did

CAVINS

Cavins "Multi-Surge" Junk Snatcher

Hydrostatic-action recovers small junk with surge after surge in one run on either drill pipe or tubing.

Cavins Automatic Hydraulic Suction Bailer

For clean out work and small junk. Self-loading and self-dumping, it is the fastest tool on a wire line.

Cavins Sand Pumps

For wire line clean out in wells having heavy or low fluid levels.

Cavins Dump Bottom

Continuous dumping of cement or chemicals. Has no ports or sleeves to foul.

Cavins Bridging Plug

Off-bottom bridge of drillable material. Self-engaging when released from Dump Bottom.

Cavins Depthometer

The original, fast and portable wire line measuring device. Does away with "stringing-in."

Advance Air-Powered Tubing Spider

The first and only complete Automatic Air-Powered Tubing Spider. Unequalled for speed, safety and performance under all conditions.

Consult Composite Catalog or write for descriptive literature.

The Cavins Co.

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Ventura: 1641 N. Ventura Ave., MIller 3-6767
Bakersfield: 130 E. Norris Road, EXport 9-3605

Field Development

LOS ANGELES BASIN

Sunray Wildcat Test

Sunray Mid-Continent Oil Company has staked location for a Newhall-Potrero wildcat test in Section 35-4n-17w. The well is located about ¾ mile southwest of the Newhall-Potrero field.

Two Prado Dam Area Tests

Alpoil Company will drill two tests in Riverside County. Govt.-T.M.P.-C. No. 1 is located in the southwest quarter of Section 17-3s-7w and is ready to spud. This will be a 2,600-foot test. Location is being graded for Sardco No. 1 in the northwest quarter of Section 20-3s-7w.

Venice Deep Test

Socony Mobil Oil Company, Inc. has awarded a contract to Fred Johnson Drilling Co. to drill Southern Counties Gas Company No. 1 approximately 1½ miles northwesterly of the Playa del Rey Field. Located near the intersection of Sunset Avenue and Washington Place, in the southwest quarter of Section 17-2s-15w, the well will be drilled as a Schist test.

Inglewood Field Completion

Standard Oil Company completed Vickers No. 21 flowing 430 b/d of 34.5 gravity oil cutting 5.2 per cent. Flow was through a 30/64" bean with 170 psi. The completion is located in Section 7-2s-14w, was drilled to a total depth of 7,800 feet, and cemented 7" casing at 5,547 feet. The 7" casing was jet perforated from 5,510-5,540 feet and a 5½" perforated liner hung at 7,200 feet.

Belmont Offshore Well

Monterey Oil Company is preparing to drill Monterey-Texaco-State No. 114, an offshore test located in projected Section 22-5s-12w.

Brentwood

Signal Oil and Gas Company and Richfield Oil Corporation have taken over the Socony Mobil Oil Company, Inc.'s interests in the Brentwood Country Club area, involving approximately 500 acres.

Beverly Hills Completion

Universal Consolidated Oil Company completed Community No. 303-D flowing 600 b/d of 40 gravity clean oil and 2,000 mcf of gas per day. Surface location of the completion is north and east from the intersection of Pico Boulevard and Fox Hills Drive in Section 25-1s-15w. The completion was drilled to a total depth of 10,249 feet and cemented 7" casing at an undisclosed point. Well No. 304-D located to the northeast, is drilling below 6,500 feet.

Huntington Beach Deep Test

Standard Oil Company has started Huntington-B No. 167, a deep test of the Town Lot area. Located north and east of the intersection of 23rd Street and Ocean Avenue in Section 3-6s-11w, the well is scheduled to be drilled to approximately 10,000 feet.

Val Verde Test Abandoned

Standard Oil Company drilled to a total depth of 8,622 feet on Videgain No. 1 and re-abandoned the well without testing. Located in the southeast quarter of Section 4-4n-17w, the well was first drilled and abandoned at a depth of 5,251 feet by the Continental Oil Co. in 1947.

NORTHERN CALIFORNIA

Texaco Inc. Gas Test

Texaco Inc. is preparing to spud Cowell Foundation No. 1 to be drilled in the northeast quarter of Section 1-4n-4e in San Joaquin County. The test is in the Walnut Grove area and is an easterly offset to Standard Oil Company's McCormack Williamson No. 8, recently completed from two zones flowing 3,110 mcf of gas per day.

Dual Gas Completion

Great Basins Petroleum Company placed Lake No. 72-32 on production as a dual completion flowing 6,250 mcf of gas per day from the First Tracy Sand through a ½" bean with a flow pressure of 1,125 psi. Flow from the Second Tracy Sand was 1,980 mcf of gas per day through a 5/16" bean with a flow pressure of 869 psi. Total depth of the completion is 6,535 feet and 4½" casing is cemented at 6,500 feet. Located in the northeast quarter of Section 23-2s-6e in San Joaquin County, the completion is ½ mile north of the present production of the McMullin Ranch Gas field.

Sacramento County Completion

Brazos Oil & Gas Company completed Walnut Grove Unit A No. 3 as a dual completion flowing 2,250 mcf of gas per day from the Winters perforations 8,105-8,112 feet. Flow was through a ¼" bean with a flow pressure of 1,500 psi and a shut in pressure of 3,190 psi. Flow from the Midland perforations 3,620-3,645 feet was 1,700 mcf of gas per day through a ¼" bean with a flow pressure of 1,120 psi and a shut in pressure of 1,460 psi. Located in the Walnut Grove field in Section 36-5n-4e, the completion was drilled to a total depth of 8,500 feet and cemented 5½" casing at 8,228 feet.

Victory Oil Wildcat Gas Test

Victory Oil Company is drilling below 1,000 feet on Universal-Harrison Trust No. 1 in the Davis area. The test is located seven miles east of the Winters Gas Field in the northwest quarter of Section 28-8n-2e in Solano County. Proposed depth of the well is 4,800 feet.

New Pool Discovery

Zephyr Oil Company completed Leon Oro Blanco No. T-4 flowing 1,600 mcf of gas per day through a ¼" bean with pressures of 1,025/1,025 psi. The well is producing from the perforated interval 3,720-3,700 feet and is 1½ miles west of nearest production. Located in the northeast quarter of Section 35-4n-2w in Humboldt County, the well was drilled to a total depth of 4,720 feet and cemented 4½" casing at 4,720 feet.

SECONDARY RECOVERY--
EVEN MORE PROMISING
WITH DOWELL'S NEW IDEAS!

Many of the tools, techniques and products recently developed by Dowell for improving well stimulation treatments are being used effectively in *secondary recovery* operations. For example, *Rockshock** — a new service using implosion capsules to lower injection pressures; *Abrasijet** — a service used to clean the formation face and condition the zone for better fluid acceptance; *Ezeflo** — a low-pour-point surfactant used to lower water injection pressure; *Slick Water* — a friction-reducing agent used to cut pumping pressures by more than half during stimulation treatments; and a special agent used to remove calcium sulfate and other scale deposits from formations and down-hole equipment. These are only a few of Dowell's new services and products — more new ideas are on the way. If you're involved in secondary recovery work, it will pay you to *dial Dowell.* Dowell, Tulsa 1, Oklahoma.

*DOWELL TRADEMARK

Services for the oil industry — DOWELL

DIVISION OF THE DOW CHEMICAL COMPANY

The Western Oil and Gas Association, at this year's Hi-Jinks, will select Miss Petroleum, or Miss WOGA, for 1960. The finalists, as entered by the member oil companies, will be "on display" and the board of directors will make their final decision of the winner that night.

Occidental Wildcat Test

Occidental Petroleum Corp. is ready to spud Sachreiter No. 1, a wildcat test, located in the center of the southeast quarter of Section 14-14n-1w in Colusa County. The well will be drilled to approximately 9,500 feet and is five miles west of the Grimes Gas Field, which now has four producers.

Proposed New Gas Test

G. R. Nance, Oil Operator of Los Angeles, is making arrangements to drill a wildcat test in the Port Chicago area of Contra Costa County. Proposed location of the test is in the northeast quarter of Section 17-2n-1w.

Sutter County Completion

Cameron Oil Company and Franco Western Oil Co. completed Wood-Straube No. 1, located in the northwest quarter of Section 4-14n-1e, flowing 5,000 mcf of gas per day through a ¼" bean with a flow pressure of 2,400 psi and a shut in pressure of 3,115 psi. Flow is from 7 intervals perforated with a total of 65 feet from 6,722 to 6,323 feet. Located 6,000 feet northeast of Helen McLaughlin No. 1, the deeper pool discovery, the completion was drilled to a total depth of 8,245 feet and cemented 5½" casing at 8,209 feet.

McMullin Ranch Completion

Signet Operating and Exploration Co. completed McMullin No. 4 flowing 10,700 mcf of gas per day from the Blewett 5 Zone through a ½" bean with 1,600 psi flow pressure and 2,100 mcf of gas per day from the First Tracy Zone with 1,300 psi. Located in the northeast quarter of Section 25-2s-6e, the well was bottomed at 6,500 feet and cemented 4½" casing at 6,500 feet.

Gulf Gas Test

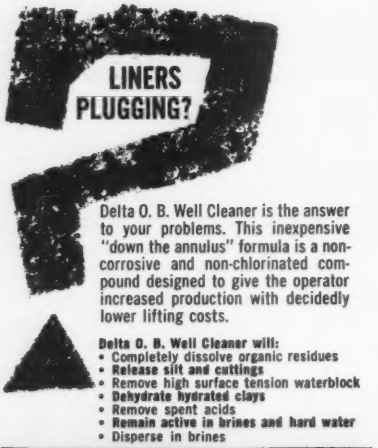
Gulf Oil Corp. of California is drilling below 1,000 feet on Simon-Newman No. 1, a wildcat test in Stanislaus County. The test is located 2½ miles northwest of the town of Newman in the northeast quarter of Section 11-7s-8e.

Standard Outpost Completion

Standard Oil Company is drilling below 4,200 feet on Blossom Community No. 1, an outpost gas test located in the southwest quarter of Section 32-5n-5e in San Joaquin County. The test is located midway between the Thornton and Walnut Grove Gas Fields.

Vernalis Gas Completion

Porter Sesnon et al completed Sesnon-Vernalis Unit 1 No. 52-22 flowing in excess of 10,000 mcf of gas per day through a ½" bean from a total depth of 5,100 feet. 5½" casing is cemented at 4,300 feet. The completion is located in the northeast quarter of Section 22-3s-6e in San Joaquin County.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Universal Outpost Test

Universal Consolidated Oil Co. is preparing to drill Rheem-Mayfair Farms No. 1 in the southeast quarter of Section 6-17n-1w in Colusa County. The well is a northwest offset to the company's Catfish Bend Field discovery, Rheem-Hammer No. 1, good for 3,087 mcf per day from the interval 2,328-2,315 feet.

West Vernalis Gas Test

John M. Young of Beverly Hills drilled to a total depth of 5,000 feet and abandoned Gerlach No. 22-14 without testing. Location of the wildcat test was in the northwest quarter of Section 14-3s-5e in San Joaquin County, five miles west of the Vernalis Gas Field.

Sutter County Gas Test

Buttes Gas and Oil Company is drilling below 1,000 feet on its Elkhorn area wildcat, Natomas No. 2. Location of the test is in the northwest quarter of Section 5-10n-4e about 12 miles north of the city of Sacramento.

Tehama County Outpost Test

In the Kirkwood area, W. S. Payne, Jr., Operator, has awarded a contract to the Brown Drilling Co. to drill D. L. Williams No. 1 in the northwest quarter of Section 32-24n-3w. The 5,500-foot test is located 1½ miles north of three producers the operator recently completed. A total of 3,800 acres is under lease.

Union Oil Gas Test

Union Oil Company of Calif. is

grading roads and preparing rig site for Anderson No. 1 to be drilled in the southwest quarter of Section 12-6n-1e in Solano County. The test is in the Bunker area, one-half mile northwest of Amerada Petroleum Corp.'s Horigan No. 1 recently completed flowing 5,660 mcf of gas per day from the interval 6,858-6,870 feet.

COASTAL AREA

Oxnard Well Completing

San Roque Oil & Exploration Company is moving in production rig to complete McGrath No. 1 located in the northeast quarter of Section 36-2n-22w. The test was drilled to a total depth of 7,597 feet and redrilled to 7,120 feet. 7" casing is cemented at 7,120 feet. Rotary is being moved to drill McGrath No. 2, a southeasterly offset, located in Section 36-2n-22w. The No. 2 well will be bottomed at about 7,000 feet.

Bardsdale Field Well

Union Oil Company is building roads and rig site for Santa Susana No. 3, a field development well located in the northwest quarter of Section 12-3n-20w.

Simi Shallow Test

James B. MacDonald has staked a location for J & H Ranch No. 4 located in the southeast quarter of Section 36-3n-18w.

Four Pine Mountain Tests

Lyle A. Garner and Neptune Oil Company, Ltd. have announced locations for four Ventura County wildcats in the Pine Mountain area. Garner-Dent No. 1 will be drilled in the southeast quarter of Section 3, Garner-Government No. 1 and Garner-Government-Pine Mountain No. 1 in Section 1, and Garner-Rains No. 1 in the southeast quarter of Section 12-6n-24w.

Shiells Canyon Wildcat Test

Neptune Oil Company, Ltd. is drilling below 500 feet on Garner-Strathearn No. 1 located in the southwest quarter of Section 16-3n-24w. The wildcat will test the Sespe at about 2,000 feet.

Two Arroyo Grande Wells

Signal Oil & Gas Company has staked locations for two new field development wells. Both wells, Rock No. 68 and No. 69, are located in the southeast quarter of Section 31-31s-13e in San Luis Obispo County.

Fillmore Field Completion

Standard Oil Company completed Burson No. 1 flowing on gas lift 475 b/d of 30.2 gravity oil with a cut of 7.4 per cent. Flow was through a 20/64" bean from the perforated interval 15,213-15,343 feet. Located 2,000 feet northeast of production in Section 20-4n-19w, the completion was drilled to a total depth of 15,454 feet and redrilled to 15,344 feet. 5½" casing is cemented at 15,210 feet.

South Mountain Completion

Texaco Inc. completed Texaco-Union-H. I. Richardson No. B-4 flowing 916 b/d of 35.6 gravity oil cutting 10 per cent through a 23/64" bean with pressures of 1,100/1,200 psi and 981 mcf of gas. Flow is from the Pliocene, perforated at five intervals within 10,423-7,582 feet. The completion is located in the southwest quarter of Section 14-3n-21w and was drilled to a total depth of 10,636 feet and cemented 7" casing at 10,354 feet.

Monterey County Wildcat

Tidewater Oil Company is grading roads and rig site for Orradre No. 64X-16 in the Walker Canyon area. The test is located in the northeast quarter of Section 16-22s-11e, four miles northeast of the San Ardo Field.

SAN JOAQUIN VALLEY

San Emidio Nose Test

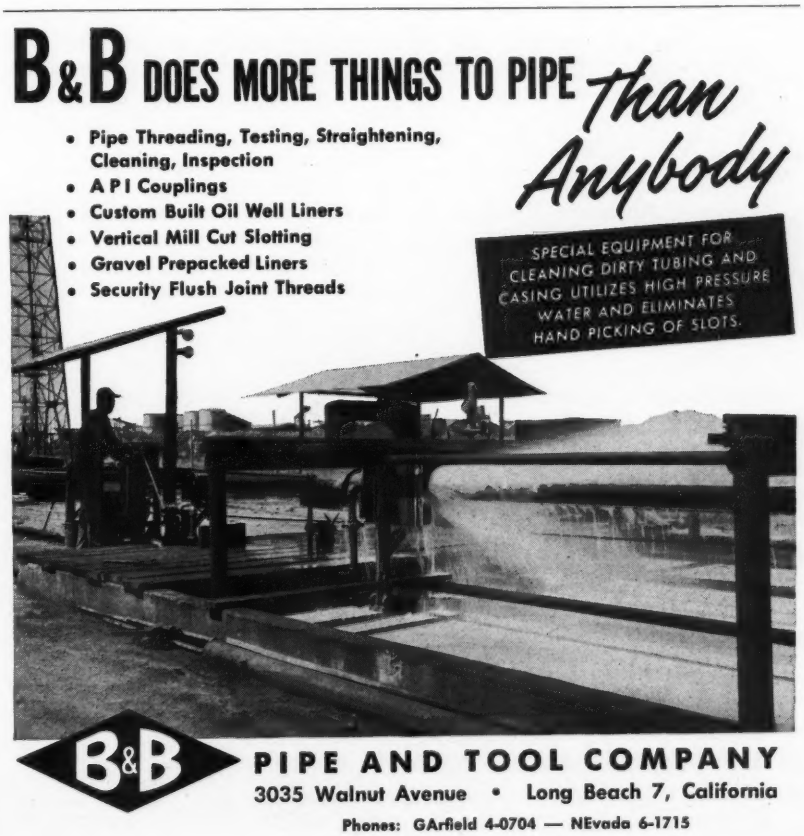
Richfield Oil Corp. awarded a contract to Coastal Drilling Company to drill KCL-Q No. 841-5 in the northwest quarter of Section 5-11n-21w. Standard Oil Company of Calif. has an interest in the development, and Westates Petroleum Company, with a contribution of 320 acres, has a 9 per cent working interest.

South Belridge Wells

Socony Mobil Oil Company, Inc. is grading rig site for three field development wells. All three wells, Belridge No. 37A-2, 38A-2 and 40A-2, will be drilled in Section 2-29s-21e.

Trico Gas Field Completion

Trico Oil and Gas Company completed Atwell Island Community No. 4 flowing 3,500 mcf of gas per day through a ¾" bean with pressures of 1,025/1,060 psi and was shut in. Flow was from the Cutler Sand perforations 3,059-3,063 feet and 3,069-3,075 feet. Located in the southwest quarter of Section 7-24s-23e, the well was drilled to a total depth of 3,365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feet and cemented 4½" casing at 3,355 feet.

Socony Mobil Test

Socony Mobil Oil Company, Inc. is asking for drilling bids for a 10,000 foot test to be drilled in the Mountain View area. Proposed location for the test is in Section 9-30s-28e.

Seven Fruitvale Locations

Gulf Oil Corporation of California has staked locations for seven development wells in the field. Four wells, Parker No. 6A, Red Ribbon Ranch No. 7A and 52A and Sawyer & Reid No. 6A, will be drilled in Section 27-29s-27e. Price & Stewart No. 2A will be drilled in Section 22-29s-27e. KCL-B No. 57A and Lahore No. 3 will be drilled in Section 21-29s-27e.

Greeley Development Well

Standard Oil Company is preparing to drill Lewis No. 6, a field development well, in the northwest quarter of Section 12-29s-26e.

Four Buena Vista Wells

Honolulu Oil Corp., Operator, has staked locations for two development wells in the field. Well No. 6D-521 will be drilled in the northwest quarter of Section 6-32s-24e, and Well No. 36B-554 is located in the southeast quarter of Section 36-31s-23e. Standard Oil Company is surveying locations for two field wells. Well No. 52 is located in the northeast quarter of Section 2-32s-23e, and Well No. 513 in the northwest quarter of Section 25-32s-23e.

Belgian Anticline Completion

Shell Oil Company completed P.M.L. No. 38-14 flowing 490 b/d oil with a 15.0 per cent cut from the interval 6,550-6,273 feet. Flow was through a 26/64" bean with pressures of 290/460 psi and 221 mcf gas. The completion is located in the southwest quarter of Section 14-30s-21e and was drilled to a total depth of 6,550 feet. 5½" casing is cemented at 6,273 feet.

Wheeler Ridge Test Suspended

In the Windgap area, Richfield Oil Corp. has suspended Richfield-Mohawk-Wheeler Ridge Community No. 18-30 after a test recovered 6 b/d oil cutting 90 per cent, from the interval 8,010-8,000 feet. Located in the southwest quarter of Section 30-11n-19w, the test was drilled to a total depth of 9,702 feet and cemented 5½" casing at 9,488 feet.

Helm Completion

Nordon Corporation, Ltd. completed Noble No. 1-9 flowing 355 b/d rate of 34.0 gravity clean oil and was shut in with pressures of 925/-400 psi. Flow was through a 7/64" bean from the perforated interval 6,848-6,861 feet. Located in the southwest quarter of Section 9-17s-18e, the well was drilled to a total depth of 6,950 feet and cemented 5½" casing at 6,934 feet.

Two Standard Outpost Tests

Standard Oil Company is preparing to drill two outpost tests of the McKittrick Front area of the Cymric Field. Both are approximately 2,500 feet from production. Well No. 31X-6-5 will be drilled in the northwest quarter of Section 31-29s-22e and Well No. 3-1 in the northwest quarter of Section 5-30s-22e.

Semitropic Test Abandoned

The Mitchel Company abandoned Mitchel-Bradford No. 26X-23 without testing after drilling to a total depth of 3,300 feet. Located in the southwest quarter of Section 23-27s-23e, the well logged the top of the depleted Mya Sand at 2,365 feet.

Madera County Test Testing

Solar Drilling Company is production testing U. S. Royalty No. 77-17 located in the southeast quarter of Section 17-12s-15e south of the Moffat Ranch Gas field. The well was originally drilled by the Union Oil Company and abandoned without testing at a total depth of 6716 feet. Solar Drilling Co. redrilled the hole to 4,070 feet and after running logs and making open hole tests of the interval 3,913-4,070 feet, cemented 4½" casing at 4,066 feet.

OTHER AREAS

Alaska

In the Soldotna Creek area, Standard Oil Company of Calif. and Richfield Oil Corp. completed Soldotna Creek Unit No. 12-9 flowing 800 b/d of 37.0 gravity oil from a total depth of 10,785 feet. Located in the northwest quarter of Section 9-7n-9w, the completion has 7" casing cemented at 10,785 feet.

Standard Oil Company of Calif. and Richfield Oil Corp. completed two wells on the Swanson River Unit. S.R.U. No. 12-15, located in Section 15-8n-9w, was completed from a total depth of 11,383 feet flowing 350 b/d of 31 gravity clean oil. 7" casing is cemented at 11,383 feet. S.R.U. No. 12-34, drilled to a total depth of 11,032 feet and with 7" casing cemented on bottom, was good for 600 b/d of 33.0 gravity clean oil. Location of the completion is in Section 34-8n-9w.

Arizona

Texas Pacific Coal and Oil Co. drilled to a total depth of 5,799 feet on Navajo No. 138-4 and abandoned the test. Located in the northeast quarter of Section 11-40n-28e near Dry Mesa in Apache County, the

well logged the top of the Molas at 5,425 feet and top of the Mississippian at 5,485 feet.

Nevada

Shell Oil Company has staked location for Eagle Springs Unit No. 62-35, a 7,800-foot test, in the northeast quarter of Section 35-9n-57e in Nye County.

New Mexico

The Ohio Oil Company has staked a location for Ohio-Government-Whelan No. 1 in the southwest quarter of Section 20-15n-1e. The wildcat is in the Cornfield Canyon area of Sandoval County and will be a 4,800-foot Pennsylvanian test.

Kern County Land Company awarded a contract to Rutledge Drilling Co. to drill Shell-Navajo No. 1-21 in the northwest quarter of Section 21-29n-18w in San Juan County. The wildcat will test the Devonian at about 7,500 feet.

Humble Oil & Refining Company completed Navajo-L No. 2, the most southeasterly well in the Ojo Field, located in the southwest quarter of Section 26-29n-14w. Completed from the Gallup Sand frac't perforations 5,386-5,387 feet, the well flowed 260 b/d through an 18/64" bean. The completion was drilled to a total depth of 5,492 feet and logged the top of the Gallup at 5,002 feet.

Southwest Production Company completed Fannie Ward No. 1 as a new pool discovery flowing 3,805 mcf of gas per day through a ¾" bean with pressures of 315/635 psi. Flow is from the Dakota perforations 6,334-6,504 feet. Located in the southwest quarter of Section 18-30n-11w in San Juan County, the well was drilled to a total depth of 6,600 feet and cemented 4½" casing at 6,600 feet. Top of the Dakota was logged at 6,335 feet.

Oregon

Humble Oil & Refining Company drilled to a total depth of 12,093 feet on Thomas Creek Unit No. 3 and abandoned the well without testing. The test was located in the northeast quarter of Section 18-36s-18e in Lake County, a short distance north of the California border.

Utah

Standard Oil Company's San Juan County wildcat, Arnold No. 21-15, is reported to have flowed 3,000 mcf per day from the Upper Mississippian interval 8,123-8,127 feet and is now drilling below 8,200 feet. The test is located in the northwest quarter of Section 15-30s-24e about ½ mile east of Belco Petroleum Company's Belco-State No. 2 recently completed flowing 530 b/d.

Skelly Oil Company has staked location for Utah-Federal-C No. 1 in the southwest quarter of Section 4-35s-15e in San Juan County. Nearest production to the 5,200-foot Devonian test is at the Lisbon Field.

Atlantic Refining Company is grading roads and rig site for Combs Wash No. 1 to be drilled in the southeast quarter of Section 14-39s-20e in San Juan County. The well will test the Cambrian at about 4,300 feet and is ten miles northwest of the Pennsylvanian production in the Paradox Basin.

Washington

Sunshine Mining and Cascade Gas Company is preparing to spud Oscar No. 1-A located in the southeast quarter of Section 15-18n-12w near Ocean City in Grays Harbor County. The test is about 3,000 feet southeast of the company's gas well, Sampson John Unit No. 1.

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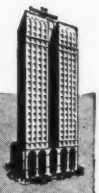

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LAUGH

He—"Can I turn off the hall light?"

She—"You may."

He—"Can I turn off the ceiling lights?"

She—"Sure, Jimmy."

He—"Can I turn off the bridge lamp?"

She—"Why, yes, honey."

He—"Now that it's dark in here, can I ask you a question?"

She—"Yes, dear."

He—"Do you think this luminous necktie is worth two bucks?"

A wife was telling her husband about the new neighbors who had moved in next door.

"They have an old car, a very small television set and no piano. I guess we won't have any difficulty keeping up with them."

Retorted the husband: "I am not so sure. Did you see them unload their bank account?"

The sweet young thing burst into the police station screaming, "Help, help! I've been robbed. Someone has stolen my aunt's pay!"

The sergeant at the desk tried to quiet her by saying, "Cut out the pig-Latin and tell me what happened."

Joan—"I simply can't stand my husband. He has such a nasty disposition he's made me so jittery that I'm losing weight."

Aunt—"Why don't you leave him and go back to mother?"

Joan—"Oh, I will. I'm just waiting 'til he gets me down to 120 pounds."

Warden—"Is there anything in particular you'd like included in your last meal?"

Condemned prisoner—"Yes — mushrooms. I've always been afraid to try them."

Mother—"When those bad little boys threw rocks at you, why didn't you come and get me?"

Son—"Gee, Ma, you couldn't hit the side of a barn!"

THIS

OFF!!

A woman was leading her young daughter across the street in the middle of the block during rush-hour traffic. Suddenly the loud-speaker of a police safety car blared:

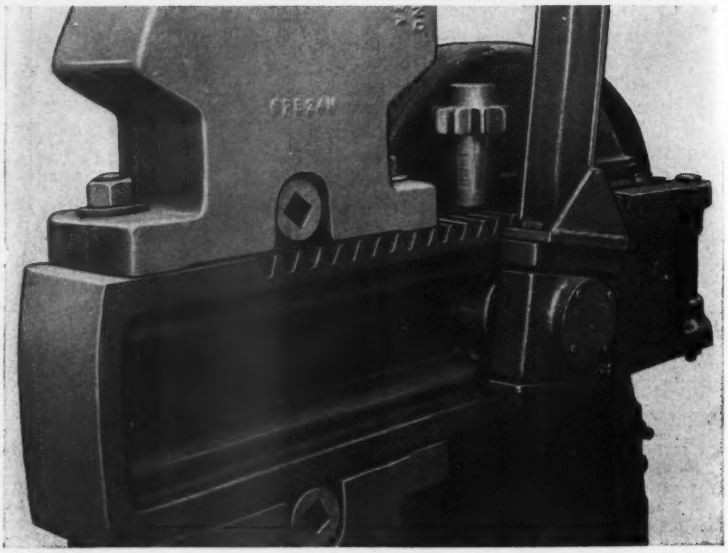
"Little girl, will you please show your mother how to cross a street?"

"What does your husband do?" one wife asked another.

"He's an expediter."

"What's that?"

"Well, it's hard to explain, but if we women did what he does, they'd call it nagging."



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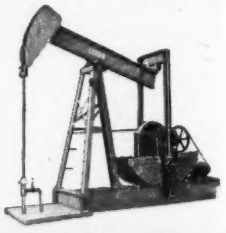

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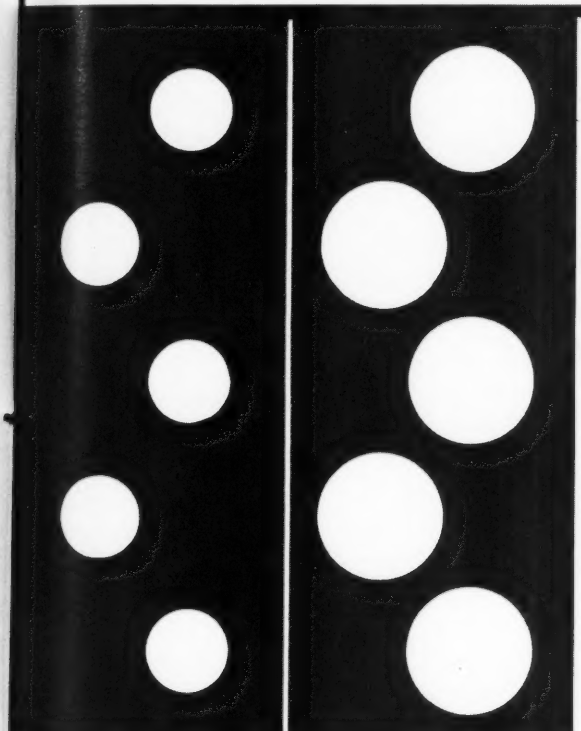

Comparison of area of standard perforations (above, left) and 780 Super E perforations (above, right).

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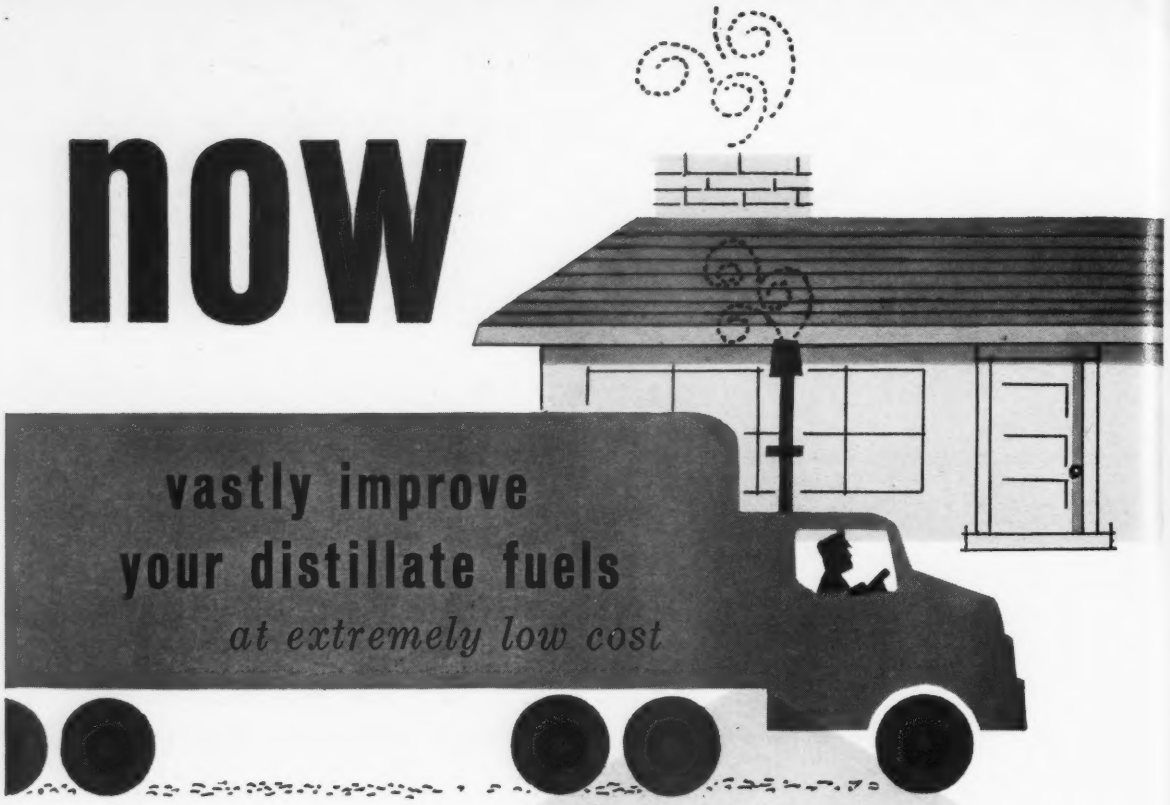

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